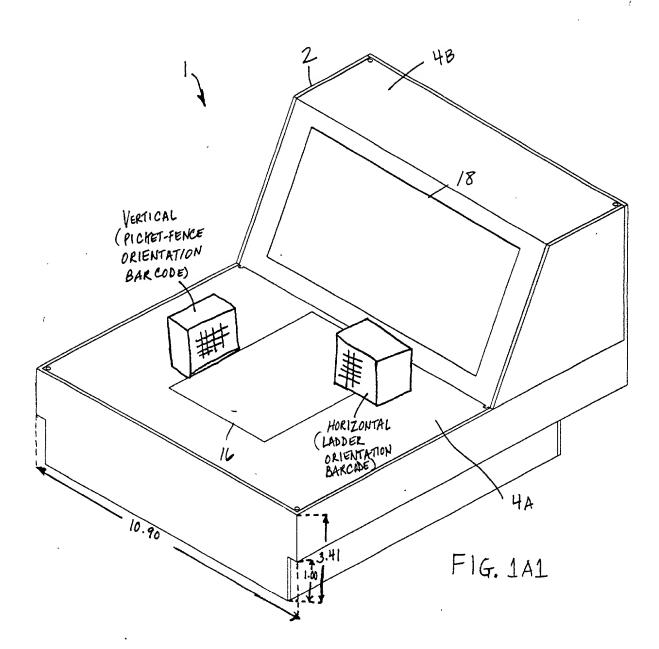
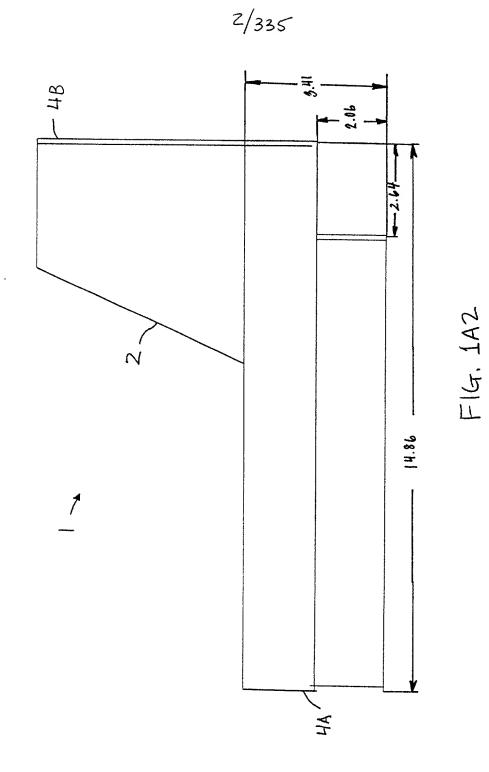
1/335





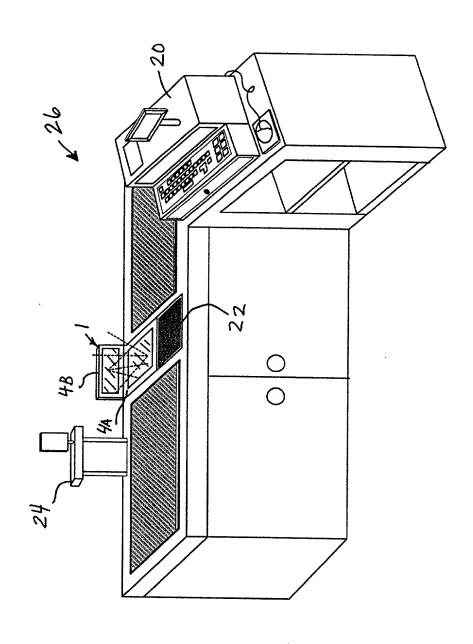
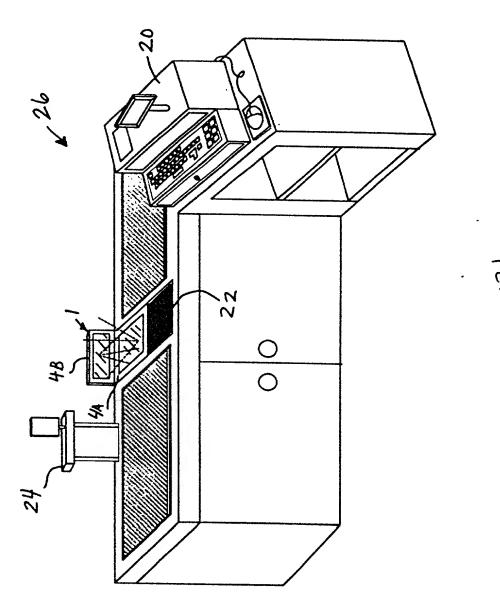


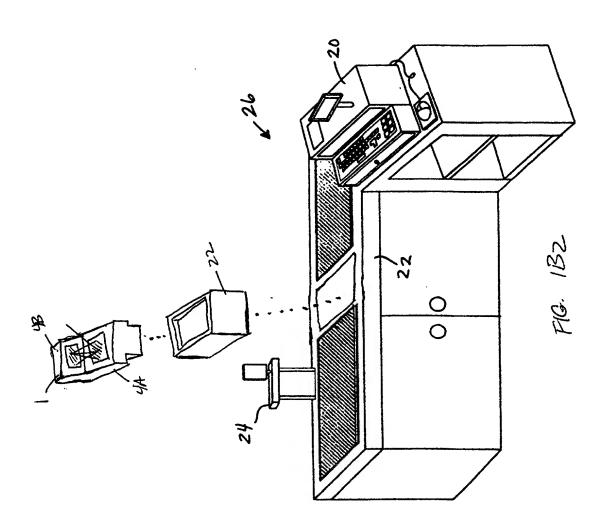
FIG. 1B

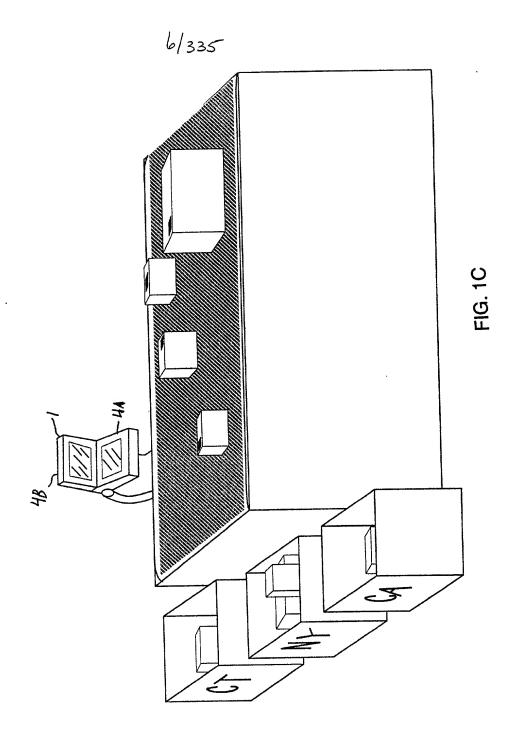
4/335

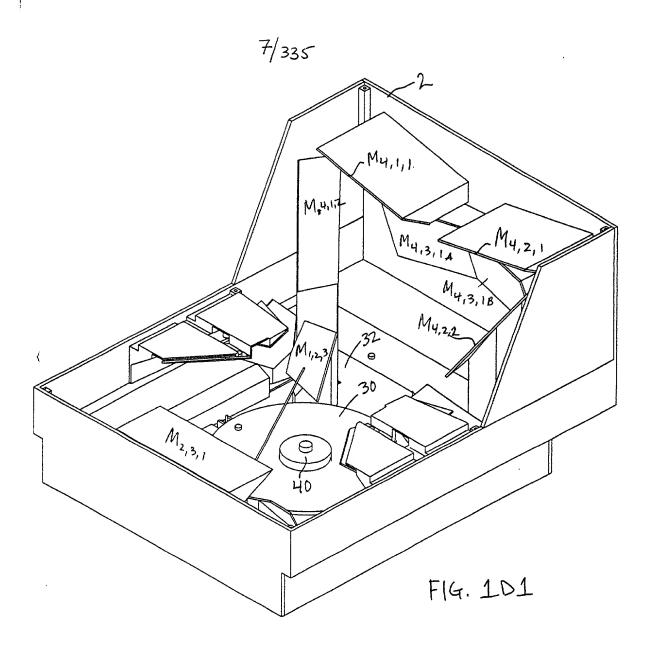


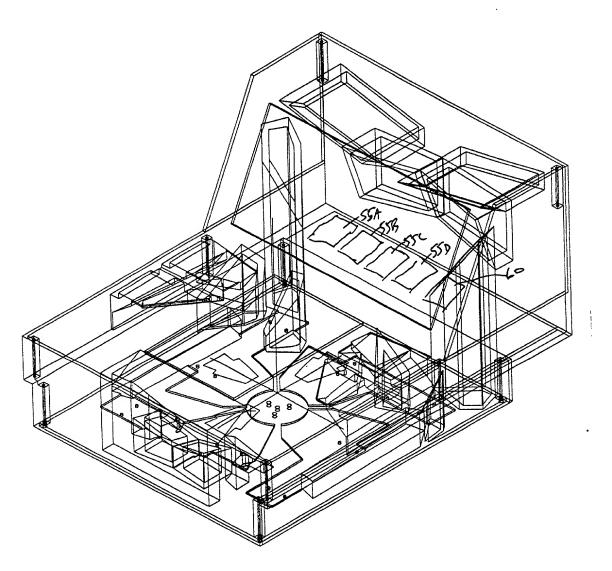
16. 15

5/335

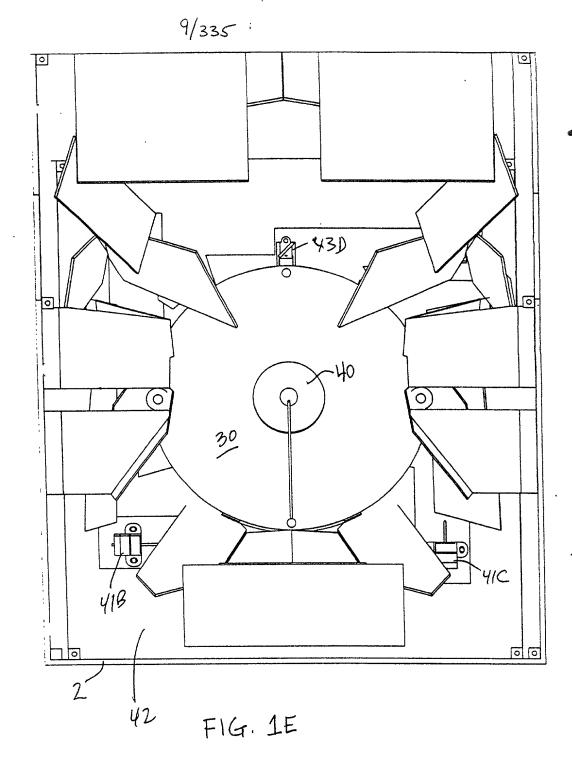


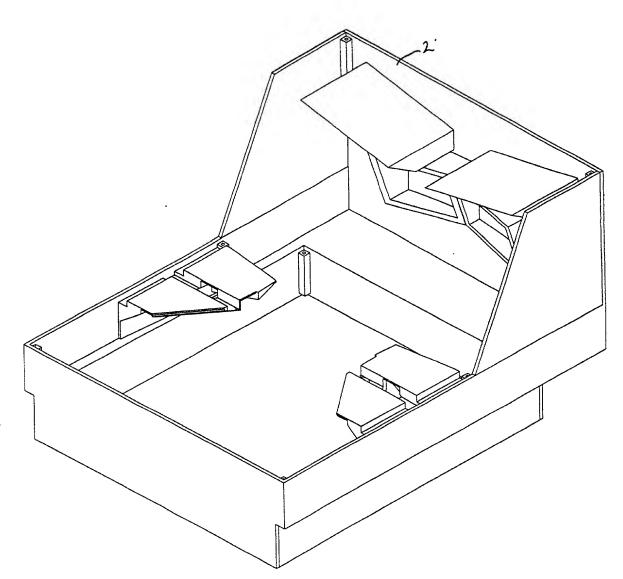




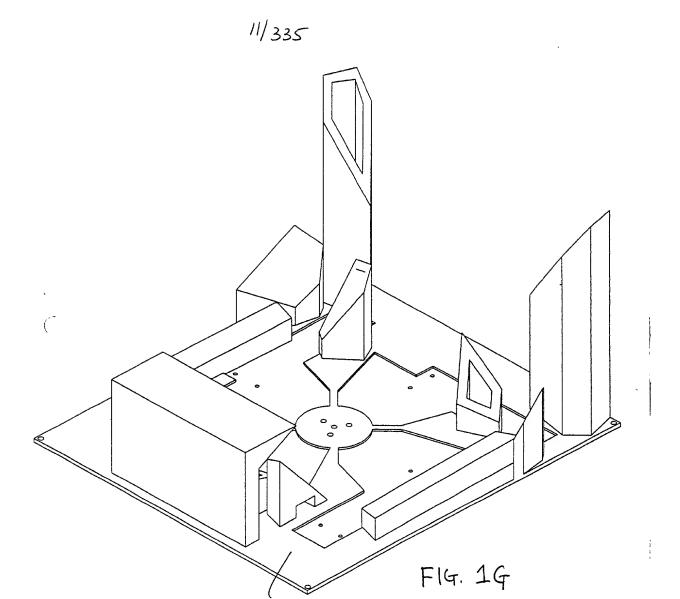


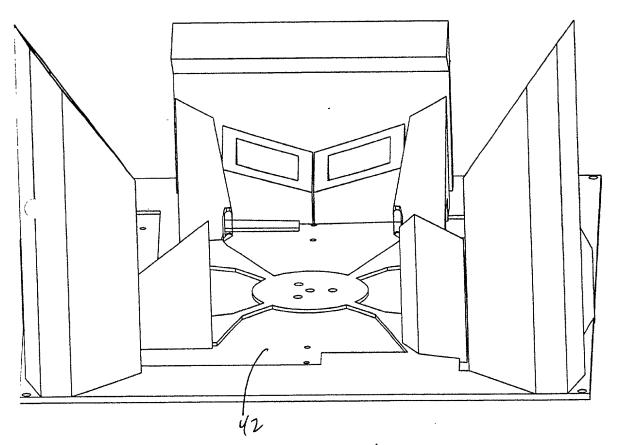
F14. 1DZ





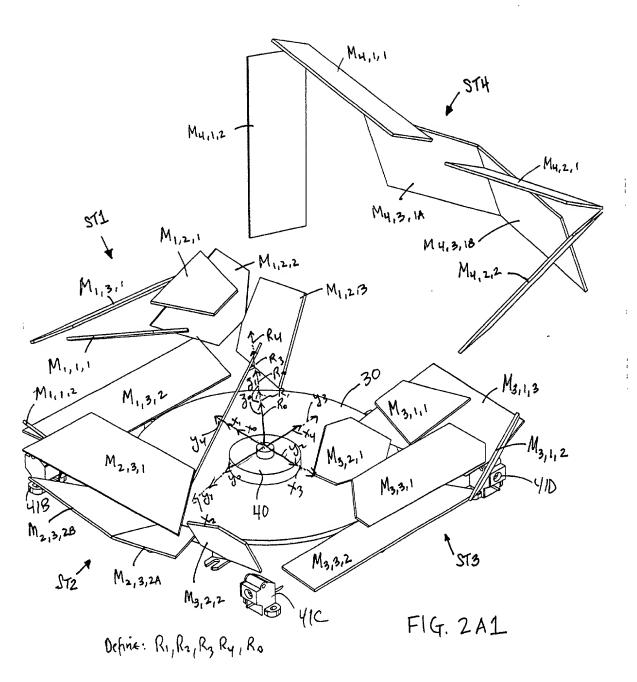
F14. 1F



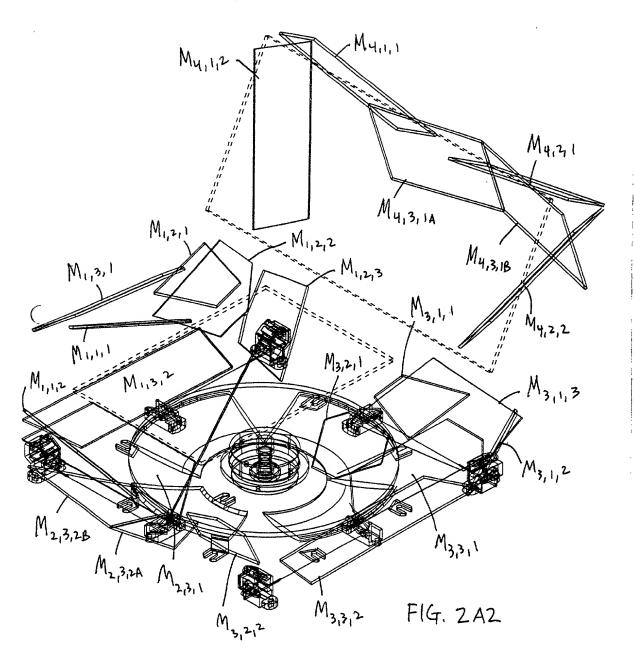


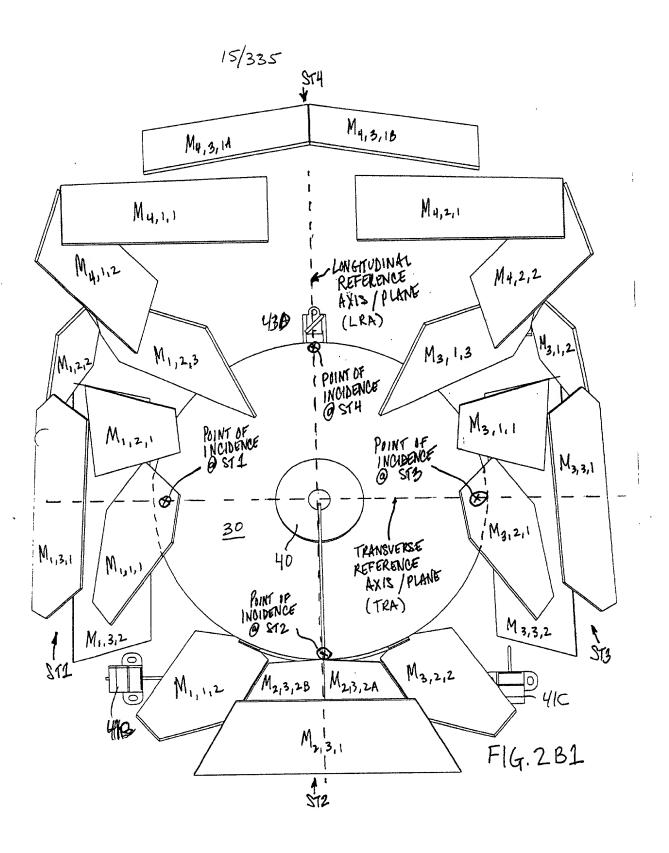
F19. 1H

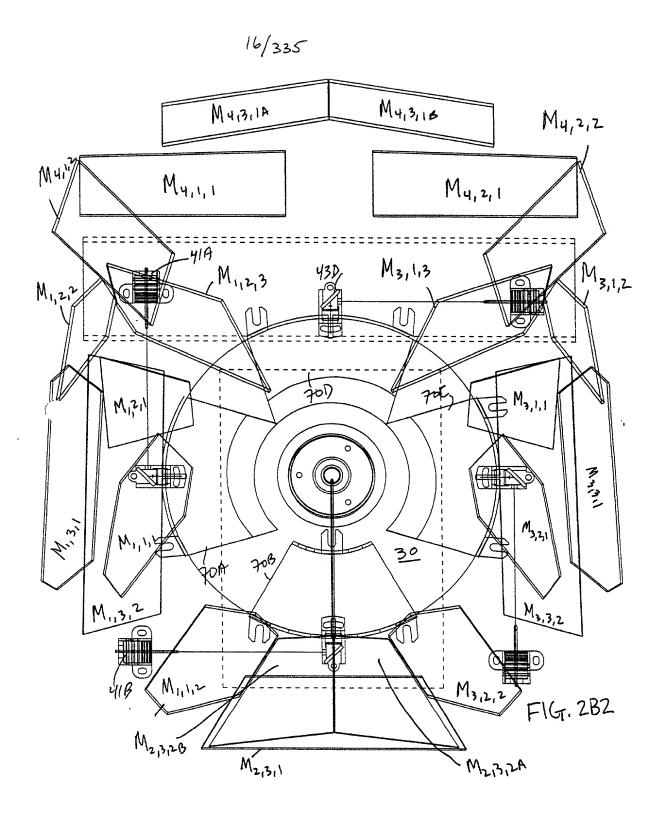
13/335

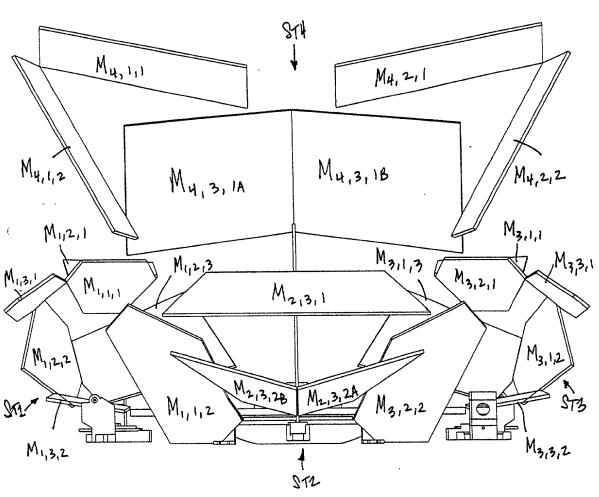


14/335

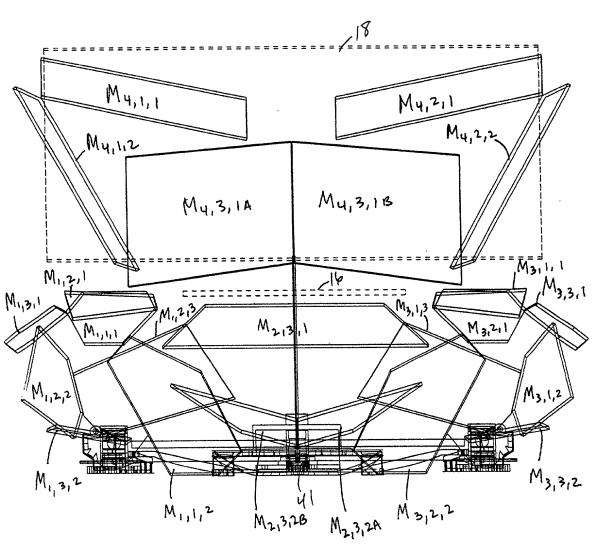








F14.2C1



F14.2C2

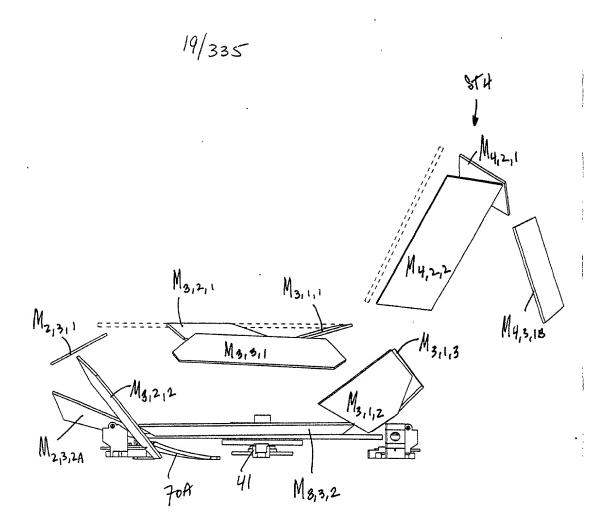
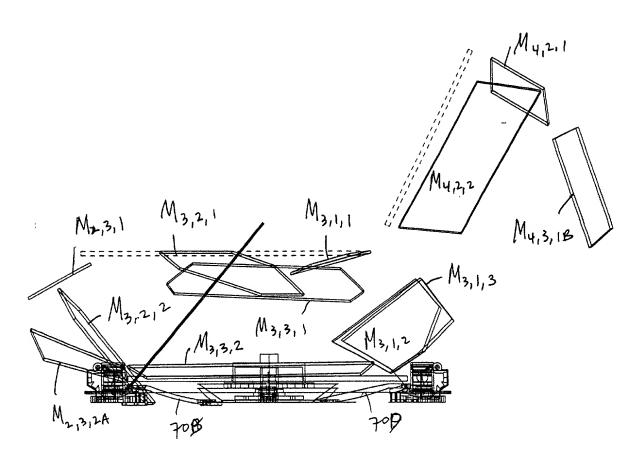
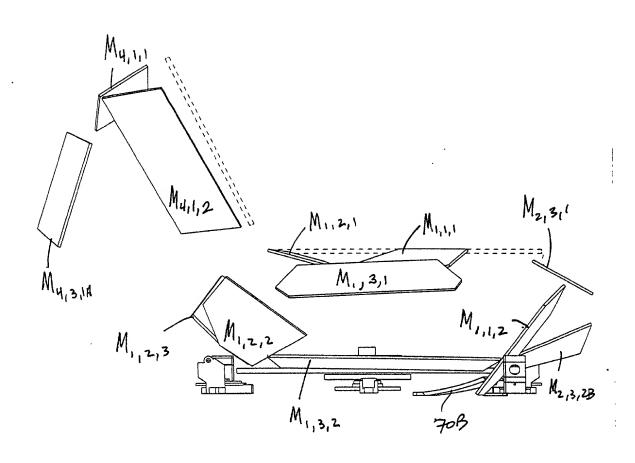


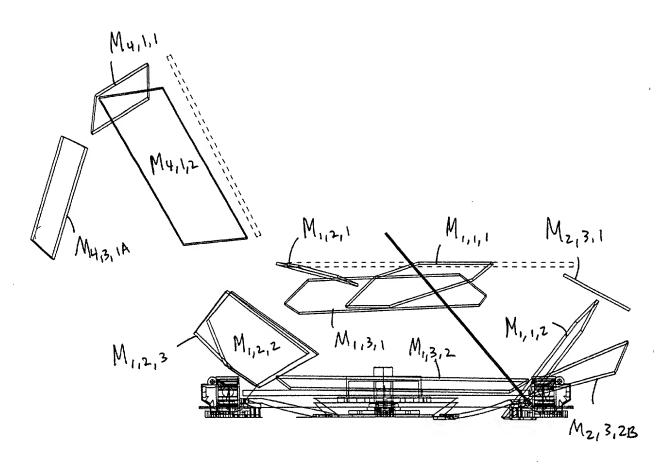
FIG. 201



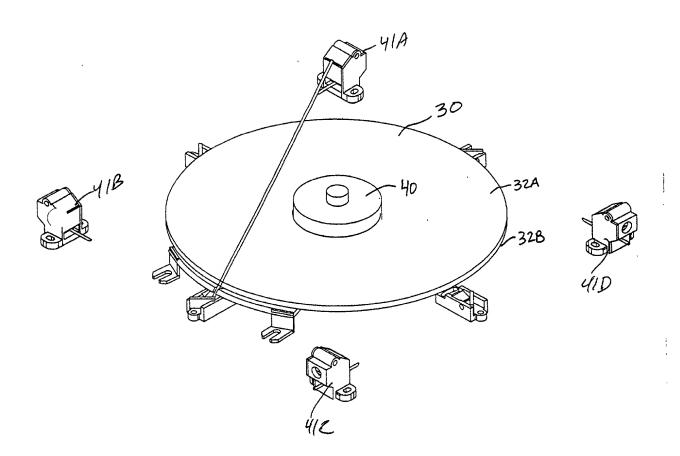
F14.202



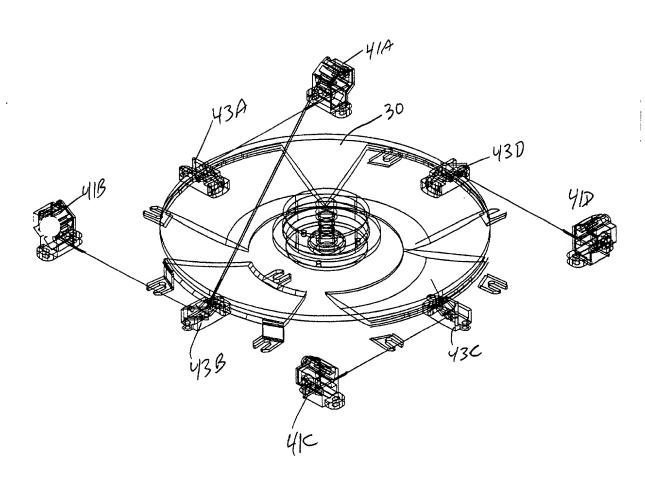
F14. 2E1



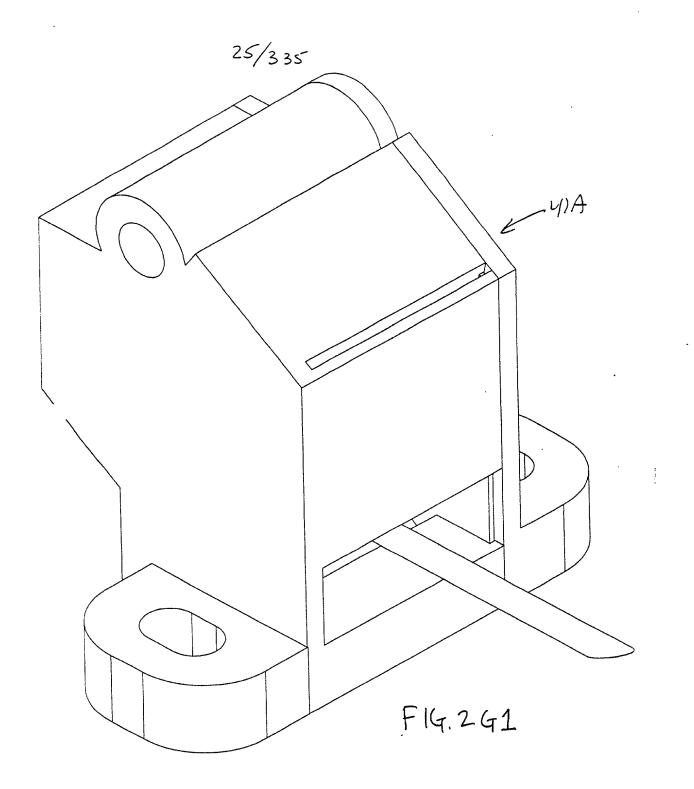
F14.2E2

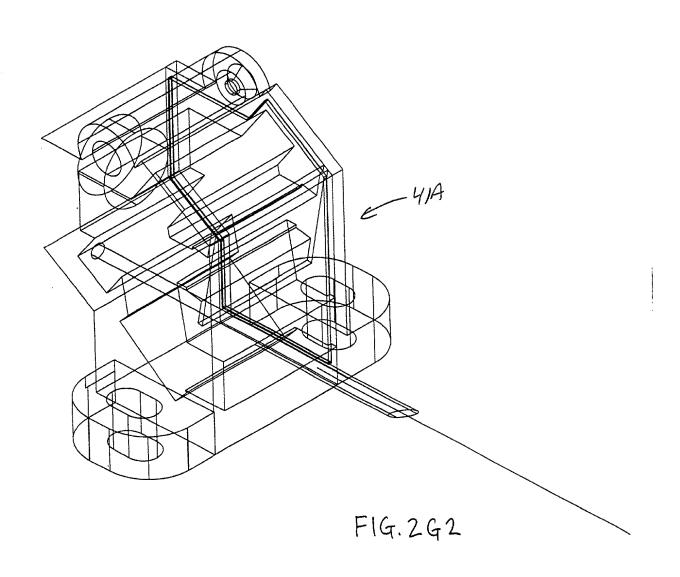


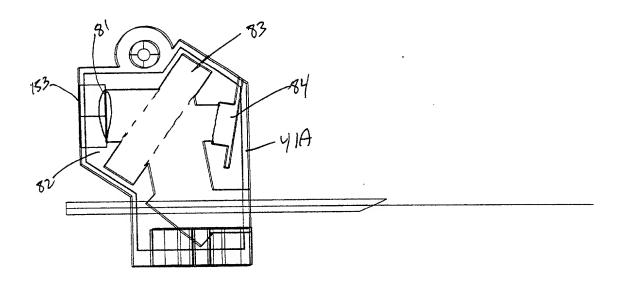
F14. 2F1



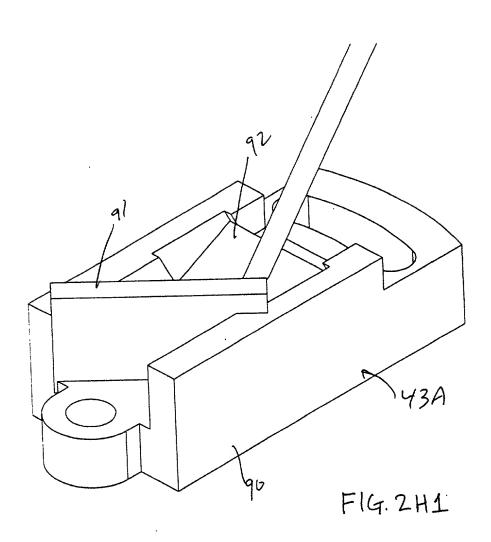
F14. 2F2

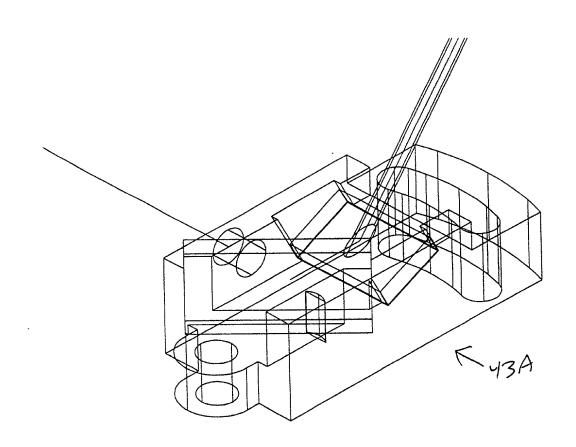




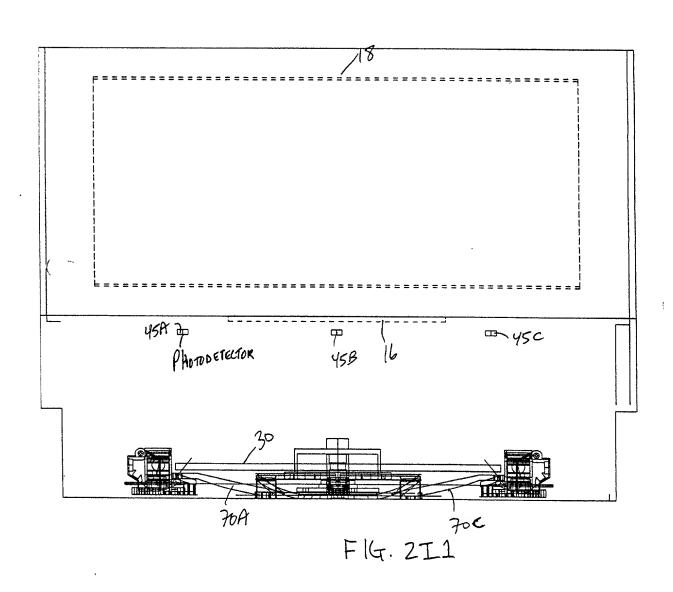


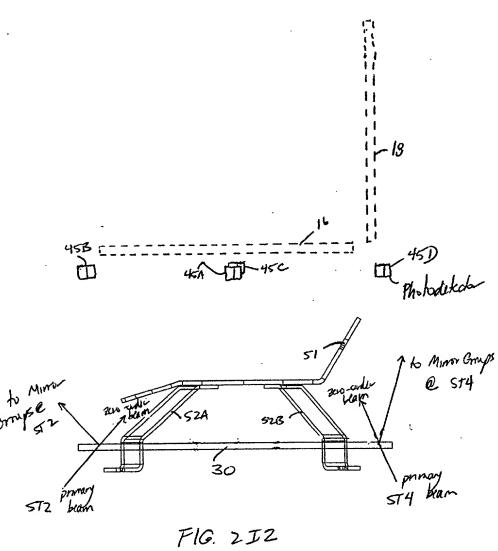
F14. 243

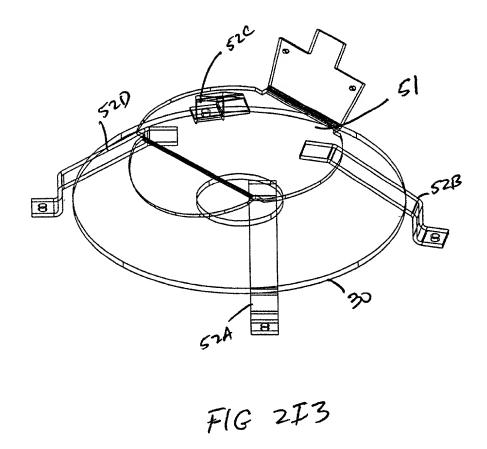




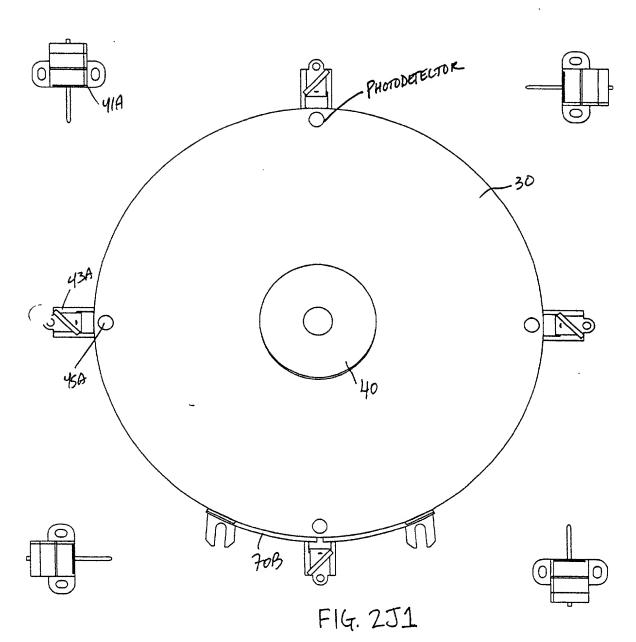
F14.2H2

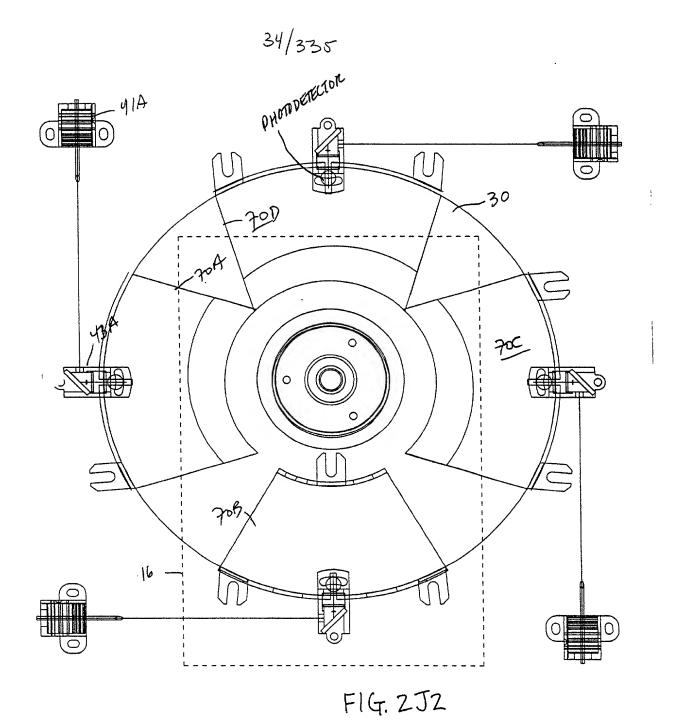


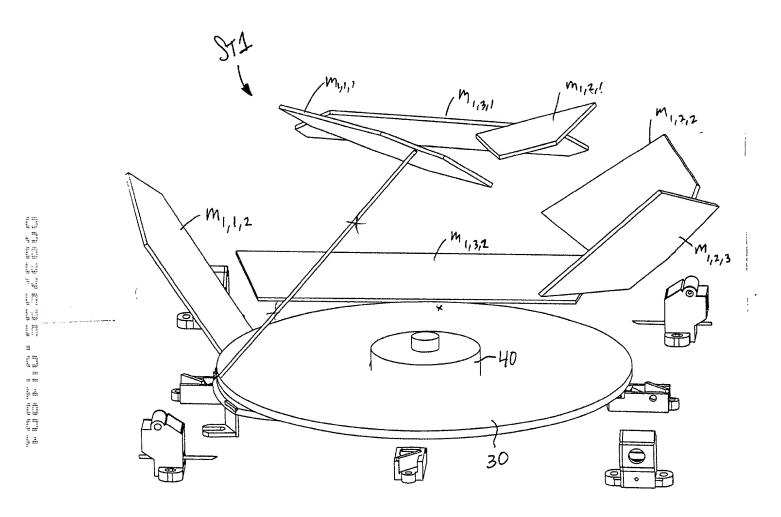




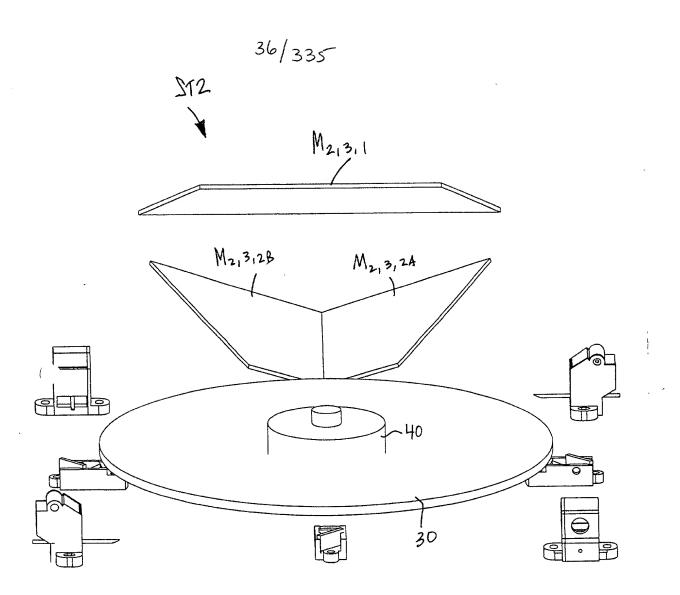




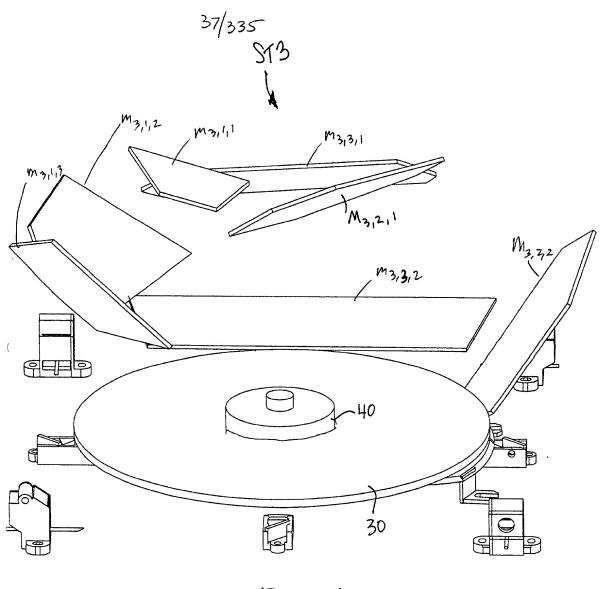




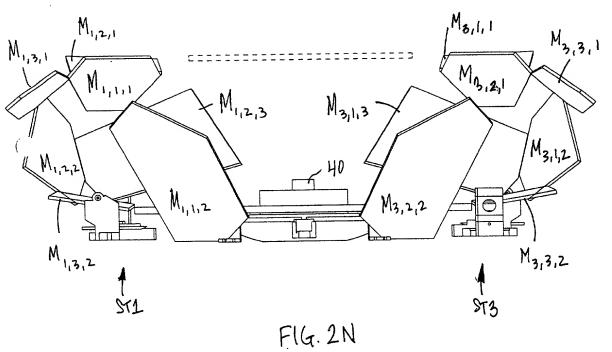
F14.2K

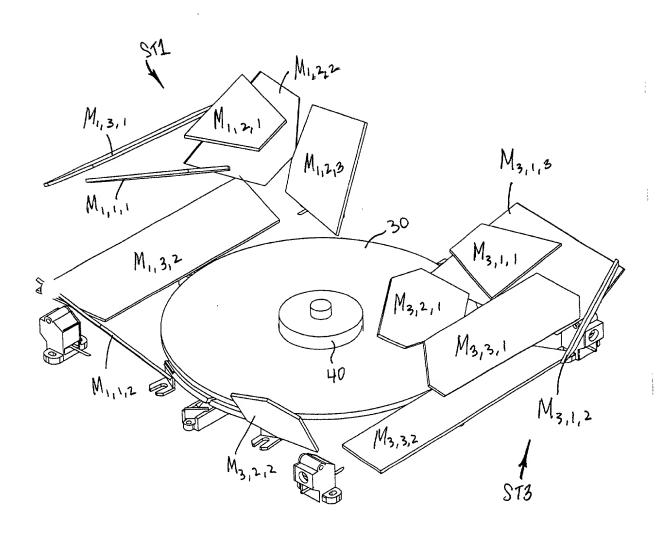


F1G. 2L

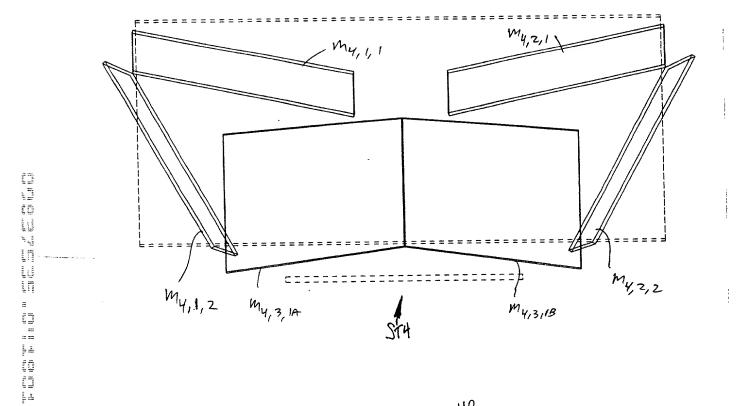


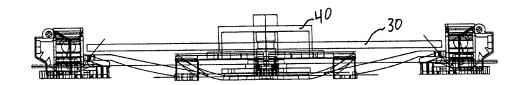
F14.2M



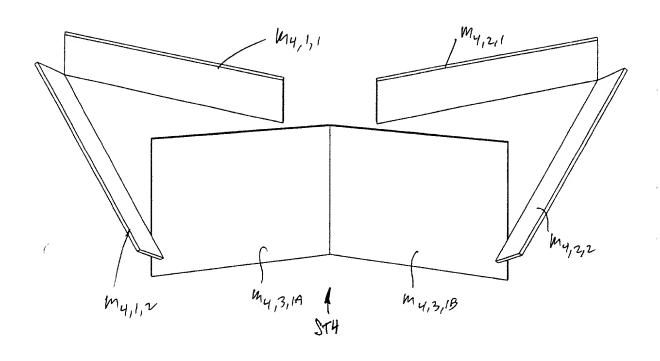


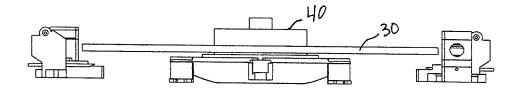
F14.20



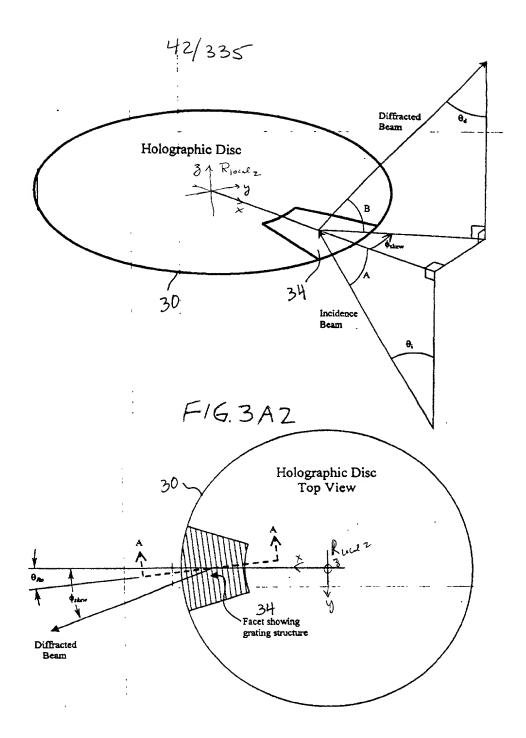


F14.2P





F14.2Q



F16.3A3

ELEVATION AND SKEW ANGLE CHARACTERISTICS OF FACETS ON HOLOGRAPHIC SCANNING DISK OF THE PRESENT INVENTION

HIGH ELEVATION ANGLE

FACET NO.

5

		HIGH ELEVATION ANGLE	
	G1	LEFT SKEW ANGLE	7
		22. 1 3.(2117,11322	9
			11
FACET		HIGH ELEVATION ANGLE	FACET NO.
GROUP NO.	G2	RIGHT SKEW ANGLE	8
			10
			12
			FACET NO.
			1
	G3	LOW ELEVATION ANGLE	2
	~0	NO/ZERO SKEW ANGLE	3

FIG. 3A4

MG	MCZ @	(S) 1/S		15 F	[D 14	15010m		-	ļ	100 P	★ ⊢	5	2	c	۵
A B C D E	Ω)	۵	\dashv	Ш		ш		I	-	7	¥	4	Σ	z	5	1
Station 1 (Local Co-ordinates)	(Local Co-ordinates)	o-ordinates)	tes)				(e4)					1		1		
(File let Nega	Negative skew	jative skew	ew			ď	Positive Skew	ew			No Skew	(2012)	3	-		
First Mirror x y z	x y z	y z	7			×	>			×	>	Z	-			
2.55 -1.80	-1.80	-1.80				3.80	2.30			4.30	1.60	2.52	-			
-2.27 2.77	-2.27 2.77	-2.27 2.77	2.77	3		4.10			- 1	- 1	- [2.04	-			
2.05	0.23 2.05	0.23 2.05	2.05	1.1		1,47,13.80	0.14	1.80	47.	, 5.20	- 1	1.83	+	1		
-0.24 2.25	-0.24 2.25	-0.24 2.25	2.25			3.10			,	./. 5.00	 8.	1.66				
2.55 -1.80 2.70	-1.80	-1.80	2.70		_	2.50				4.70	-2.10	1.87				
						2.65	0.76			4.10	-1.60	2.40				
10						3.80		2.77		4.30	1.60	2.52				
													-			
12 Second Mirror x y z	z k x	yz	Z			×	y	Z		×	λ	Z				
13 4.00 -2.63 0.05	-2.63	-2.63	0.05			1.70	4.10	1.30		3.10	2.60	-0.03	-			
4.90 -1.40 0.77	-1.40 0.77	-1.40 0.77	0.77	,	1'	3.00				4.50	3.00	0.22		-		
	-3.20	-3.20		$I''_{\{i,j\}}$, 2.3.40	3.99	1.50	7	1 4.35	-2.30	0.30				
3.70 -4.10	-4.10	-4.10		,		2.30		1	,'	// 3.00	-2.00	0.04			-	
17 4.00 -2.63 0.05	-2.63	-2.63	0.05			1.40	ļ			3.10	2.60	-0.03				
18						1.00	2.99	-0.20								
19						1.70		i					-	1		
20													-			
Third Mirror x y													-	+		
4.41	-4.10												-			
IM 1.97 -3.30	-3.30	-3.30											-			
24 (, 2, 3 1.12 -1.60 0.80	-1.60	-1.60											_			
2.51	-2.00	-2.00											-	1		
3.53 -2.70	-2.70	-2.70												1		
4.41 -4.10 1.10	-4.10		1.10										-			
												1	\dashv	\dashv		

FIG 38

Mirror Shapes

	·	 								 	 							 		
	۵										7	-0.11	0.38	1.07	1.07	0.17	-0.11	lines)		
	0		No Skew								у	0.00	0.00	2.26	2.26	1.00	0.00	 orizontal		_
,	z		~								×	3.00	4.80	2.07	5.07	3.06	3.00	(Split mirror for generating two sets of horizontal lines)		
7	Σ										•							g two		
1.63@572	-			Z	2.51	1.73	1.73	2.51	2.51		Z	-0.11	0.38	1.07	1.07	0.17	-0.11	generatin		
(V) #4	×		No Skew	y	-1.60	-2.40	2.40	1.60	-1.60		У	0.00	0.00	-2.26	-2.26	-1.00	0.00	irror for g		
	5		Z	×	3.75	5.10	5.10	3.75	3.75		×	3.00	4.80	5.07	5.07	3.06	3.00	(Split m		_
	-						-		-						1.24					
	I	•	M6	7			7	7			z				W232A					
	5		Positive Skew	>							>									
	ш		Po	×							×								·	
	Ш																			
		(se)	ew	Z							N									
	ပ	o-ordina	Negative skew	>							>									
	В	(Local Co-ordinates)	Nec	×							×									

33 First Mirror
34 First Mirror
35 First Mirror
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Mz, 3, 23

F14.3C

Summary
Mirror S

		ξ,	m 6 200 ST3	8	~^	(h)	1761@5T3	57.3			2 2 2	MG3@573	w to
	4	В	၁	٥	E	Ŧ	S	I	_	7	노		
54	Station 3	(Local C	(Local Co-ordinates)	tes)			-						
55		V ? Nec	V<)Negative skew	ew		(1)Pos	 Positive Skew 	We			No Skew		
56	First Mirror	×	>	Z		×	>	Z		×	>	7	
57		3.80	ļ	2.77		2.55	1.80	2.70		4.30	-1.60	2.52	
28		4.10	1	2.40	14	4.15	2.27	2.77		4.95	-2.15	2.04	
25		3.80	ļ	1.80		3/19.95	-0.23	2.05		5.20	-2.00	1.83	4
8	Z	3.10		1.80		2.42	0.24	2.25		5.00	1.80	1.66	3,3.1
10)'z'c	2.50	0.16	2.45		2.55	1.80	2.70		4.70	2.10	1.87	1-1-
8		2.65	'	2.77						4.10	1.60	2.40	
8		3.80	-2.30	2.77						4.30	-1.60	2.52	
8													
8	Second Mirror	×	>	7		×		Z		×	Α	z	
198		1.70	-4.10	1.30		4.00		0.05		3.10	-2.60	-0.03	
67		3.00	1	1.98		4.90	1	0.77		4.50	-3.00	0.22	14
188		3.40	1	1.50	2	124.60	3.20	2.18		4.35	2.30	0.30	788,
8		2.30	1	-0.63		3.70	4.10	1.06		3.00	2.00	0.04	
2	2 5	17 1.40	-2.57	-0.63		4.00	2.63	0.05		3.10	-2.60	-0.03	
7		1.00	1	-0.20									
72		1.70	-4.10	1.30									
73													
74	Third Mirror	×	λ	7		×	Σ	Z					
75						4.41	4.10	1.10					
9/						1.97	3.30	2.20					
1					17 41	·	1.60	0.80					
78					1/6	_	2.00						
79						3.53	2.70	0.10					
8						4.41	4.10	1.10					
81													

-1G. 3D

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	a		3	Z	5.61	ı					lines)								
	0		No Skew	>	0.00	ł					horizont								
_	z			×	6.70	7.40	6.95	6.20	6.70		sets of								
4	Σ) A	n					T	T	T
mg3@Ay				Z	5.61	3.32	2.90		5.61		(Split mirror for generating two sets of horizontal lines)		N						
200	×		No Skew	>	0.00	0.00	-3.00		0.00		nirror for		>						
	7			×	6.70	7.40	3 6.95	6.20	6.70		(Split r		×						
	-					3	43	300											T
9514	Ŧ		Mí.	7	6.41	5.65	6.47	7.17	6.41				Z	3.37	3.23	6.46	6.68	3.37	
MG1@STY	5		/L/ Positive Skew	λ	0.80	0.80	4.50	4.50	0.80				>	3.20	2.80	4.50	4.95	3.20	
\$	ī		/L Pos	×	4.90	6.10	00.9	4.90	4.90				×	2.85	1.4.20	5.95	4.60	2.85	
	ш					M	,							3	1/4				ľ
Pr620574	۵	(se)	A9	Z	6.41	5.65	6.47	7.17	6.41				7	3.37	3.23	6.46	89.9	3.37	
75,	C C	(Local Co-ordinates)	∧ Negative skew	>	-0.80			-4.50	-0.80				>	-3.20	-2.80	-4.50	-4.95	-3.20	
4. 3	В	(Local C	Net Net	×	4.90	6.10	00.9		4.90				×	2.85	4.20	5.95	4.60	2.85	
	A	83 Station 4		85 First Mirror			Mus	1, 1,					94 Second Mirror		174	27%			
		83	8	82	8	83	8	8	8	91	92	93	98	8	8	97	8	66	100

F1G. 3E

Dox vicini (inches): Number Control Con						Disholls	Pt		
See Note 3 Nightlighted (ref).	Box height	(inches):			NA	(See Note 1)	Problem items are		
247 P-pulse Class 17 (See Note 3) 38.14 (See Note 3) 39.3 (See Note 3) 38.14 (See Note 3) 38.14 (See Note 3) 39.3 (See Note 3) 38.14 (See Note 3) 39.3 (See Note 3) 38.14 (See Note 3) 39.3 (See Note 3) 38.14 (See Note 3) 38.14 (See Note 3) 39.3 (See Note 3) 38.14 (See Note 3) 39.3 (See Note 3) 38.14 (See Note 3) 38.14 (See Note 3) 39.3 (See Note 3) 38.14 (See Note 3) 38.14 (See Note 3) 39.3 (See Note 3) 38.14 (See Note 3) 38.14 (See Note 3) 39.3 (See Note 3) 38.14 (See Note 3) 39.3 (See Note 3) 39.3 (See Note 3) 38.14 (See Note 3) 39.3 (See Note 3) 38.14 (See Note 3) 38.14 (See Note 3) 39.3 (See Note 3) 38.14 (See Note 3) 39.3 (See Note 3	Box width (nches):			N/A	(See Note 2)	/highlighted (red).		
38.00 (See Note 4) 38.00 (See Note 5) 38.14 (See Note 6) 38.14 (See Note 7) 38.17 (See Note 7) 38.17 (See Note 7) 38.15 (See Note 7) 38.15 (See Note 7) 38.15 (See Note 7) 38.16 (See Note 7) 38.16 (See Note 7) 38.17 (See Note 7) 38.17 (See Note 7) 38.18 (See Note 7) 38.18 (See Note 7) 38.19 (See Note 7) 38.10 (See Note 8) 38.10 (See Note 7) 38.10 (See Note 8) 38.10	Max angle B	(degrees):			İ	(See Note 3)			
1.356. A (See Note 4) 1.3704 1.3704 1.3704 1.3704 1.3704 1.385 1.386 1.387 1.386 1.386 1.386 1.386 1.386 1.386 1.386 1.386 1.	Min angle B	(degrees):			38.00	(See Note 3)			
13704 13704 13704 13704 17158 17	Total facet	angular sweep (de	grees):		358.14	(See Note 4)			
13704 191 247 192 247 193 194 195 19704 19704 19704 19704 19704 19704 19704 19704 19704 19704 19704 19704 19704 19704 19704 19704 19704 19704 19704 19705 19707 19					000	10 -17 14 -07			
1758 1758	Min (angle A	4 - angle B) (degre	es):		0.00	(See Note of			
1.255 Pulse Class 17 (See Note 7) (See Note 8) (See Note	Max beam s	beed (inches per	second):		13/04				
91. 247 P-pulse Class 17 See Note 7 0.91 Max bandwidth (MHz) for 247 P-pulse Class 17 See Note 8 (See Note 8) 0.25s Pulse train correction See Note 8 (See Note 8) (See Note 8) Cse Note 8 PASS	Min beam s	peed (inches per a	(puope		7158				
2.47 P-pulse Class 17 3.45 (See Note 7) 0.91 Max bandwidth (MHz) for YES (See Note 8) (See Note	Power at da	ita detector (nW):			872				
247 YES (See Note 8) 0.91 Max bandwidth (MITZ) for YES (See Note 8) (See Note 8) 0.925s Pulse Class 17 (See Note 8) (See N	Signal volta	ge (volts):			5.47	(See Note 7)			
YES YES Pulse Class 17 YES Pulse train correction PASS Pulse train correction PASS	Signal volta	ge at max DOF lin	nits (volts):		3.45	(See Note 7)		7.5 mil bars	
1 PASS PASS PASS PASS PASS PASS PASS PASS	CDRH	P-avg. Class 2?	- 11	P-pulse Class 17		0			
10.25s Pulse train correction 10.25s PASS	lun,	YES	YES	YES		(See Note 8)			
PASS Ithen the value exceeds the specified value elis G417 to G456 to identify the problem er ilius adjustments in Celis G215 to G254. Ithen the value exceeds the specified value ablished by the width of the tops of the mirror range between 40 degrees and 70 degrees. Between 40 degrees and 70 degrees. Between 40 degrees of 360 degrees. The length of the scan lines.	EC:	Single pulse	P-avg. 0.25s	Pulse train correct	lon				
Uote 2: This entry is highlighted (ead) then the value exceeds the specified value for the box height (cell c2t). Go to cells G417 to G455 to lefently the problem entries and make the necessary inner radius adjustments in Cells G254, and make the necessary inner radius adjustments in Cells G254. Integration of the box design, but it gives an indication of the box design, but it gives an indication of the box design, but it gives an indication of the box design, but it gives an indication of the box design but it gives an indication of the box design but it gives an indication of the box design but it gives an indication of the box design but it gives an indication of the box design but it gives an indication of the box design but it gives an indication of the box design but it gives a final but whith a red degrees of 360 degrees. Note 4: This entry must be less than but whith a red degrees of 360 degrees. To satisfy this requirements andort the length of the scan lines. To satisfy this requirements. Proceeds and a small, adjustments in the box degree of the problem facets (See Cells A48 to X507). This value must be greater than some value established by the signal processor requirements. Pytically, this value stablished by the signal processor requirements. Pytically, this value stablished by the signal final before a that a 2 volts, this value stablished by the signal fit is value in sets that 2 volts, this value stablished by the signal fit is value in sets that a 2 volts, and a 2 volts, and 2 volts.		PASS	PASS	PASS		(See Note 8)			
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Vote 2: This entry is not used in the box deaple between dry 18 and 19 decess. Vote 2: This entry is not used in the box deaple between dotted by the width of the tops of the mirrors. Vote 3: Generally, the B angles should range between dot degrees. Vote 4: This entry must be the state of larger angles may be difficult to construct. Vote 4: This entry must be the state of the problem tacets (See Cells X468 to X507). Vote 5: This value must be greater than some value established by the signal voltage must be greater than some value established by the signal processor requirements. Typically, this value should be greater than 2 volts. If this value is less than 2 volts, either the laser power must be increased or the focal distances must be decreased. (Modify laser power in Cell B795).									
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	(Moc	lify laser power in	Cell B799.)						

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d = distance	9 from disk to bas	d = distance from disk to base of scanner (inches)	:(8)	-			0						
Rotational	Rotational speed of disk (mm	1		-			5200						Maximum
	di nom in mandi			-									Collection
DiskStratos 4.xls	4 xls						099	650 nm			Accounting for	Light	Area
				-			Focal plane	358.14		-	dead time for	Collection	(Ignoring
	Diffraction	Geometrical				Angle of	scan line		Scan mult.	Rotation	laser beam	Factor	notch)
Facet	Focal length	Focal length	Angle A	An	Angle B	Diffraction	length	Scan Angle	Factor (m)	Angle	1.15		
	(inches)	(inches)	(degrees)	g)	(degrees)	(degrees)	(inches)	(degrees)	-	(degrees)	(degrees)		(sq. in.)
	Given		Given	Given	8								
	12.5	5 12.73		52	38.00	52.00	9.750	42.61	1.62	26.24	27.39	1.00	2.28
	11.5			52	40.00	20.00	9.750	45.95	1.62	28.35	29.50	08'0	1.81
	12.7			52	42.00	48.00	9.750	42.00	1.58	26.66	27.81	0.92	2.09
	4			25	44.00	46.00	9.750	45.95	1.57	29.19	30.34	12.0	1.62
	12.7			52	48.00	42.00	9.750	42.00	1.50	27.97	29.12	62'0	
	alla como e all'ossessiones d'app	,		25	52.00	38.00	9.750	44.22	1.46	30.28	31.43	0.64	1.47
	7 14.7			52	28.00	32.00	9.750	36.69	1.31	27.99	29.14	18.0	•
	14.7	7 15.08		52	58.00	32.00	9.750	36.69	1.31	27.99	29.14	28'0	1.97
	13.5			25	90.09	30.00	9.750	39.71	1.30	30.65	31.80	0.71	1.61
	13.5			25	90.09	30.00	9.750	39.71	1.30	30.65	31.80	17.0	
-	14.8	15.19		25	62.00	28.00	9.750	36.46	1.25	29.19	30.34	0.83	-
+	12 14			25	62.00	28.00	9.750	36.46	1.25	29.19	30.34	0.83	1.88

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	Notch size in mirror	iirror											1	
	TG (12/21/99)													
	3.5 mm x 5.1 m	3.5 mm x 5.1 mr (3.5 mm x 6.5 mm at disk	nm at disk)						NOTE: If any entry	NOTE: If any entry in these two columns is less than 0.5 degrees	s is less than 0.5	degrees		
	Design								(highlighter	(highlighted in red), the corresponding B angle should be changed.	nding B angle sh	ould be ch	nanged.	
	Collection								This is acc	This is accomplished by modifying the "Distance from rotational axis"	ng the "Distance	from rotat	ional axis"	
	Area	Beam speed	Beam speed	Beam speed	Beam				entry for th	entry for that line (cells G46 to G85).	85).			
	(includes	at center of	at max depth	at min depth	skew	Facet count						_		
	notch loss of	scan line	of field	of field	angle	function	Number of			Angle A - Angle B	6			W A . V A
	0.035					1 = facet	facets			(Absolute value)				
	sq. inches)	(inches/sec)	(inches/sec)	(inches/sec)	(degrees)	0 =no facet	12			(degrees)				
							Max freq.	Min Freq.	Bandwidth					
-	2.27	11052	13704	8400	0	-	0.914	0.560	0.354	14.00				
5				7502	0	-	0.853	0.500	0.353	12.00				
K	2.08	10895	13468	8321	0	_	0.898	0.555		10.00				
I	1.63	9828	12429	7286	0	-	0.829	0.486		8.00				
S	1.79	10383			0	1	0.856	0.529	0.327	4.00				
13	1.47	9544	11929	7158	0	1	0.795	0.477	0.318	00.0				
1	1.97	10492	12634	8351	28	•	0.842	0.557	0.286	90.9				
600	1.97	10492	12634	8351	-28	-	0.842	0.557	0.286	00.9				
5		9524		7407	28	1	0.776	0.494		8.00				
10	1.62	9524	11640	7407	-28	1	0.776	0.494	0.282	8.00				
=	1.88	10068		8027	28	1	0.807	0.535		10.00				
9	1.88	10068	12108	8027	-28	1	0.807	0.535	0.272	10.00				
-														

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there and stead court of court and mad the ball it also that which rate their rate.

Particular Par	1,400	13 43	Average and	Average angle B (degrees):	52.00		Average:	1.42				8 15	2.8	SMOS	OMS	_		٦		
The control of the	AVG. 1.3. (41.)	3	1		40.00		489.48		344.36	358.44	8.55	20.17	2001			-		L		
Figure 2	Avg waist loc	13.24	Maximum any	le B (degrees):	62.00							A.A.	.ex (ln/s):	13704						
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Publication	III afund do paged	HIOL SE INCHES	The state of the s									Ē	2							
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Face Weekength (microne) Canada									-											
Functionary Maintendingfut (relection bases) Exposures Control of the con	*** Moster Hologe	en Exposure k	mormation ***					+	+			-			-				4	
Holeson Wavelength (micross) Distance from bean hecidence point on disk to 488 nm reference point of 488 nm refer	NekStratos 4 vis	-				25	muo	1	+										_	
1,55 Seavort 0.65 Different companies become any of the companies	Salatin Befractive	brdeven		Wavelengths (m)	(crons)			+	1.			out o	-						_	
Table Tabl	Defend management		1.53	Scanner:		Distance from L	sam incidence	oint on disk to	488 nm refer	nice point:		2			_	-				
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Carding gasking at seam region (increment) Part Annious Part Ann	Arrer process	-				angle from	angle from	ď.	ference t	plect			1			thete	_	theta-2	=	alpha-2
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Chicking gapacing of scann region (microral) Chicking gapacing	Facet					1	200	100	(deep)	normal		-	(degra				т	(naminan)	1	
Duigh theretenging that a construction of the properties of t		no spacing of	scan region (mk	rons)		(degrees)	(Degrees)		1	-										
CARGATI 1 CARCATION 25.16 71.57 <		Dealers wavel	anoth a		microns				1	-		-		20 %	34.25					16 12
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0.47504 2 46.00 23.71 35.82 70.00 20.00 67.19 20.00 67.10 67.19 20.00 67.10 6	-	+	0,400			50.00			25 45	37.42				E0.00	100	L			L	16.52
0.44704 4 66.00 46.00 26.12 34.20 26.22 2	2	+	0.4704			3 48.0			25.78	35.02		+		5 8	30.60				L	16.72
0.50754 6 6.200 42.00 42.00 28.61 30.90 75.00 7		+	0.4704			46.0			26.12	34.20			1	20,00	28 55					17.15
0.62774 6 38.00 27.53 27.53 27.53 27.53 27.53 27.53 27.53 27.54 91.92 24.17 6.57 0.6574 1 1 22.00 23.00 23.00 22.03 22.34 91.92 23.17 6.57 0.5674 0.5674 8 22.00 23.00 23.00 22.04 22.34 91.22 23.17 6.59 0.5674 9 9 93.00 23.00 <td>1</td> <td></td> <td>9,000</td> <td></td> <td></td> <td>\$ 42.0</td> <td></td> <td></td> <td>26 81</td> <td>30.90</td> <td></td> <td>1</td> <td>-</td> <td>200</td> <td>28.09</td> <td></td> <td></td> <td></td> <td></td> <td>1.58</td>	1		9,000			\$ 42.0			26 81	30.90		1	-	200	28.09					1.58
0.0527 1 25.00 25.64 22.30 25.64 22.30 25.64 22.30 25.64 22.30 25.64 22.30 25.64 22.30 25.64 22.34 25.64 22.54 25.64 22.54 25.64 25	0	+	0.030			98.0			27 53	27.53		-		9	10.00				_	18 26
U.SA/A 0 22 00 22 04 22 34 22 34 22 34 22 35 22	9	+	0.5278			7 32.0			28.64	22.38		-		8 8	20.50	İ			L	16.26
0.5025 1 25.00 30.00 29.02 25.04 65.00 79.02 82.04 65.00 79.02 82.04 65.00 79.02 82.04 65.00 79.02 82.04 65.00 79.02 82.04 65.00 79.02 82.04 65.00 79.02 82.04 65.00 79.02 82.04 65.00 79.02 82.04 65.00 79.02 79.02 82.04 65.00 79.02 82.04 65.00 79.02 82.04 65.00 79.02 79	,	-	0.0074			32.0			29 64	22.38			-	80.00	20 02					18.48
0.0000 10 20.000 10 20.00 20.00 10.000 20.00 10.000			2000			ĺ			29 05	20.62				96	20 92					18 45
0.5590 11 28.00 28.00 18.59 28.00 18.59 22.84 0.560			PCA2 O						29.02	20.62		1		26.00	19.59					5
	2 =		0.5990						8	16.00	+			26.00	19.59					E.2

F19.3H

Φ

25.12 24.12 23.10 22.04 22.04 19.86 17.58 14.03 11.81 11.81 beta-0 15.33 16.25 16.25 17.58 18.65 19.01 19.01 19.37 alpha-0 0.26 0.27 0.27 0.29 0.30 0.32 0.33 0.33 0.33 0.69 0.68 0.66 0.56 0.55 0.55 0.53 0.15 0.10 0.00 0.00 0.00 0.00 0.00 0.01 0 1.99 1.99 1.99 1.99 1.99 1.99 4.25 -2.90 -2.90 -2.90 -2.90 -1.48 -1. gamma(0) -4.08 -3.54 -2.39 -2.41 -2.41 -1.92 -2.58 gamma(sw) 650 nm Exposure angles to compensate for swell Reference Object Beam (degrees) (degrees) 40.50 38.70 38.70 35.04 31.31 21.77 21.77 21.77 19.83 17.89 *** Modified Exposure Angles to Correct for Post-processing Residual Gelatin Swell *** DiskStratos_4 x/s Percent gelatin swell (from measurements) delta-t/t: 20% 24.83 24.83 24.83 27.53 27.53 27.53 27.53 27.53 30.50 30.50 38.99 37.42 33.5.82 30.90 30.90 27.53 22.38 22.38 20.64 18.89 Exposure angles at 488 nm Reference Object Beam Beam (degrees) (degrees) 25.13 25.45 25.78 26.12 26.12 27.53 28.64 29.02 29.02 29.40 8 6 5 1 2 Facet

F1G. 3I

Anaiysik	Analysis of the Focus Snift and Out-or-locus spot size for Converging Hererence Beam	ii and Out-or-roct	IS Spot Size for C	Jonverging Herere	ance beam					
(Not applicat	(Not applicable for Stratos)									
Convergenc	Convergence of the reference beam:	beam:		-1477 mm	E E					
Focal length	Focal length of parabolic mirror:	or:		58.85	58.82 mm					
Distance fro	Distance from parabolic mirror to detector:	or to detector:		9	60 mm					
	Design	Par. Mirror	Required	Object	Image	Image	Spot size			
Facet	Focal length	Eff. width	foc. length	distance	distance	shift	at detector			1
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			
								0.88		
-	1 317.50		40 404.42	-14858.75	59.05	-0.95	0.64	Distance (Cell E621) may have to be adjusted		
,	2 292.10		40 364.09	31841.43	58.71	-1.29	0.88	so that the maximum spot size at the detector is		
.,	3 322.58		40 412.69	-11828.19	59.11	-0.89	0.60	approximately the same when the 1/2 depth of field value	id value	1
7	4 292.10		40 364.09	31841.43	58.71	-1.29	0.88	is negative as it is when the 1/2 depth of field value is positive.	ue is positive.	
~J	5 322.58		40 412.69	-11828.19	59.11	-0.89	0.60	(The 1/2 depth of field value is located at Cell G19)	(6	
f	304.80		40 384.03	-48230.76	58.89	-1.11	0.75			
	7 373.38		40 499.67	-4485.04	59.60	-0.40	0.27			İ
~	8 373.38		40 499.67	-4485.04	59.60	-0.40	0.27			
5	342.90		40 446.55	-6818.26	59.33	-0.67	0.45			
10	342.90		40 446.55	-6818.26	59.33	-0.67	0.45			
11	1 375.92		40 504.23	-4375.15	59.62	-0.38	0.25			
12	375.92		40 504.23	-4375.15	59.62	-0.38	0.25			j

F14.3J

Focal distances and distances to the window for the Stratos scanner LDD 12/7/99 RPH

de			Difference	(inches)		4.5	3.08	3.85	2.25	က	1.9						
Operator side	Distance to	horizontal	window	(inches)					9.25								
			Difference	(inches)		2.3	1.3	2.5	1.3	2.5	1.8	9.0	9.0	.0.3	-0.3	1.2	1.2
	Distance to	vertical	window	(inches)		10.2	10.2	10.2	10.2	10.2	10.2	14.1	14.1	13.8	13.8	13.6	13.6
	_		Difference	(inches)		4	2.7	3.5	~	2.9	1.8	4.1	υ	2.3	3.7	3.7	5.2
	Distance to	horizontal	window	(inches)		8.5	8.8	9.5	9.5	9.8	10.2	10.6	9.7	11.2	9.8	11.1	9.6
	_	Diffraction	Focal length	(inches)	civen	12.5	11.5	12.7	11.5	12.7	12	14.7	14.7	13.5	13.5	14.8	14.8
			Facet F	(נ	-	2	က	4	.c	9	7	80	6	2	Ξ	12

The horizontal window lines from the even numbered vertical facets 8, 10, 12 are near the vertical window.

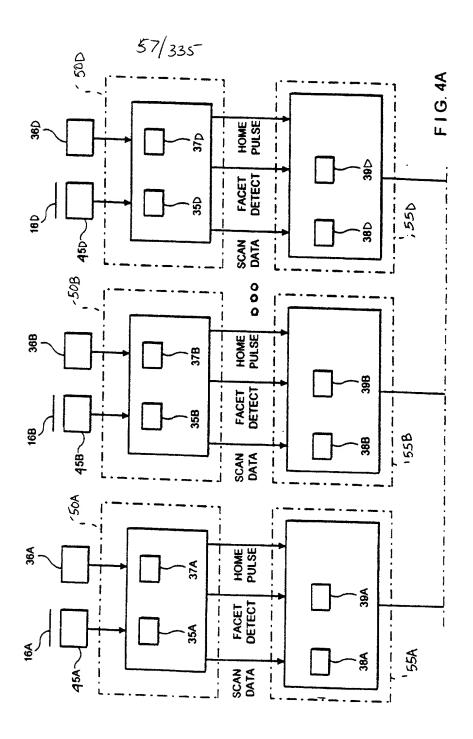
F19. 3K

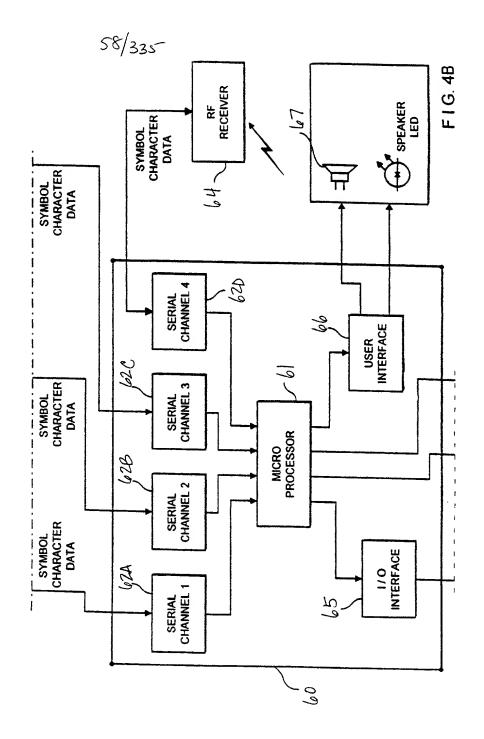
The number of overlapping lines (N-overlap) must be determined from the scanner data. A safe assumption for our scanners is to consider that two scan lines are overlapped ONLY when the difference between their diffraction angles (B) is less than 2 degrees. All else being equal, the slowest scan lines (largest angle B) will be the worst case scan					
e number of safe assump LY when th else being		Ottom (molune, 14)			_
safe assump NLY when the less being	overlapping line	Sellan (dellan man	t be determined fro	m the scanner data.	
NLY when the less being	otion for our scar	ners is to conside	A safe assumption for our scanners is to consider that two scan lines are overlapped	s are overlapped	
else being	e difference bety	veen their diffraction	ONI Y when the difference between their diffraction angles (B) is less than 2 degrees.	s than 2 degrees.	
	equal, the slowe	st scan lines (large	st angle B) will be	All else being equal, the slowest scan lines (largest angle B) will be the worst case scan lines.	
N.overlan.	-				
Motor speed (rpm):	rom):		2200		
Atoha-min (radlans):	llans):		0.0015	(from standard)	
HM D-diver	EWHM P-divergence of laser (deg.):	eq.):	80	(Linked from Trnc spreadsheet)	sheet)
VHM S-diver	EWHM S-divergence of laser (deg.):	ea.):	30	(Linked from Trnc spreadsheet)	sheet)
cal length o	Focal length of collimating lens (mm):	s (mm):	6.1	(Linked from Trnc spreadsheet)	sheet)
orle of incid	Angle of incidence at MF plate (deg.):	(dea.):	29.23		
gic of diffra	Angle of diffraction at MF plate (deg.):	(deg.):	42.12		
X-n (mm).			0.87		
X-c (mm).			3.93		
o (mmir).	Assessed course dimension (mm):	m).	2.40		
etance to ar	Average source difficulties (mm):	<i></i>	200	(actual distance or 200 mm, whichever is greater)	n, whichever is greate
Alpha (radiane):	,		0.012		
Alpina (Taulan)			7.996		
	i seer nower	te (200)	ti (actual)		
	at window	ansit	7 mm transit	Pxti	
Facet	(mM)		time at	(Joules)	
5	,,,,,	d = 200 mm	actual d		
		(spuoces)	(seconds)		Facet count
-	0.86	3.95856E-05	3.95856E-05	0.0000339	-
	0.86		3.96549E-05	0.0000341	-
4 0	0.86		4.08001E-05	0.0000351	-
9	0.86		4.08315E-05	0.0000352	-
16	0.86		4.28115E-05	0.0000370	-
0	0.87		4.40086E-05	0.0000381	-
2	0.87		4.90358E-05	0.0000425	-
- a	0.87		4.90358E-05	0.0000425	-
σ	0.87		4.96126E-05	0.0000430	-
10	0.87		4.96126E-05	0.0000430	-
-	0.87		5.14525E-05	0.0000446	-
	200		5 1/525E_05	0 0000446	-

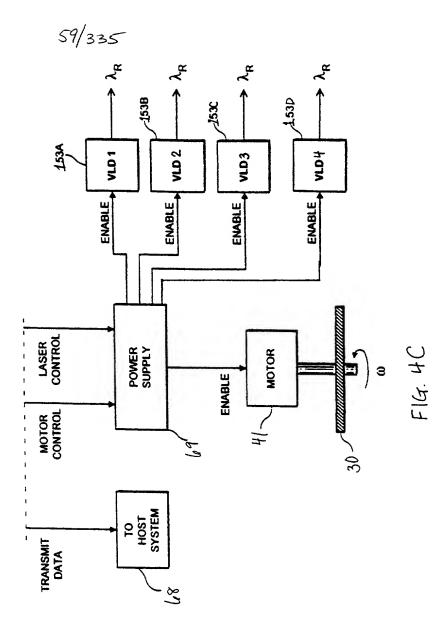
the first time and et code were the test to the the test that the

317	1
口石	<u>-</u>

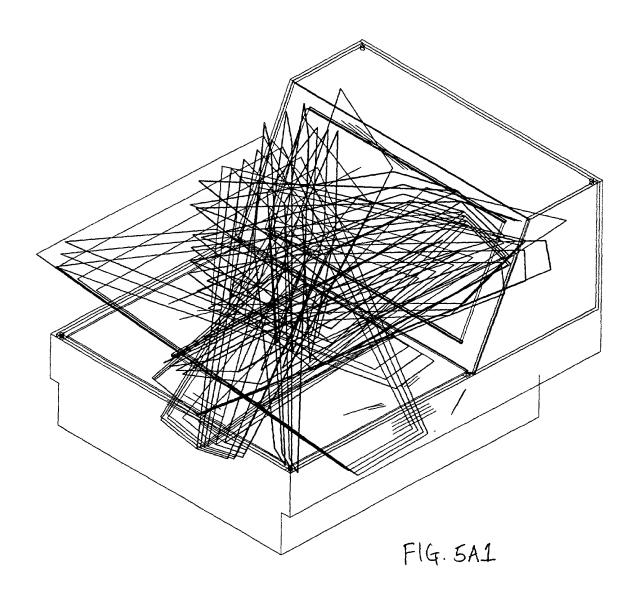
				, ,	worst case (largest) overlap value	worst case (largest) overlap values	ues
Duty Cycle:	0.004459213						
Daverage is t	Daverage is the sum of the overlan Dix til products clivided by the sum of the tilmes the duty our la	n Di v ti produc	te divided by the	eum of the ti ti	mee timee the d	the cuelle	
Paverage is,	Paverage is, therefore, the sum of the overlap PI x ti products times the rps of the motor.	f the overlap Pi	x ti products time	s the rps of th	e motor.		
CDRH calcul	CDRH calculations and results						
	As an annual state of the state	THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.	Class 1	Class 27	Class 2A?		
Pavg. (mW):		0.003869		YES	YES		
P (single pulse) (mW): (Maximum allowed)	se) (mW): lowed)	8.27					
P (single pulse)	(e)	0.87	YES				
(Actual)							
IEC calculation	IEC calculations and results						
IEC condition	IEC condition A (Single pulse)				PASS/FAIL		
P (single pulse) (mW):	e) (mW):	70.6			PASS		
(Maximum allowed)	owed)						
IEC condition	EC condition B (average power in a 0.25 second pulse train)	a 0.25 second	pulse train)				
Pavg. allowed (mW):	J (mW):	7.92			PASS/FAIL		
Pavg. scanner (mW):	r (mW):	0.0039			PASS		
IEC condition	EC condition C (pulse train correction factor)	tion factor)					
וווא כשוני	Troi into carcination, you need to fisert the sum of the pulse times in the overlapping scan lines.	usen me sum	or me puise umes	n me overrap	ing scan lines)		
T-total (seconds):	ds):	0.000051					
(sum of pulse times	times						
in overlap scan lines)	n lines)						
Pmax (mW):		66.1					
Number of pulses in train:	lses in train:	21.67					
Correction factor:	tor:	0.4635					
Pmax (PT corrected)(mW):	rected)(mW):	30.63			PASS/FAIL		
Pw (including overlap)	overlap)	0.87			PASS		
E	Carl Say				200		

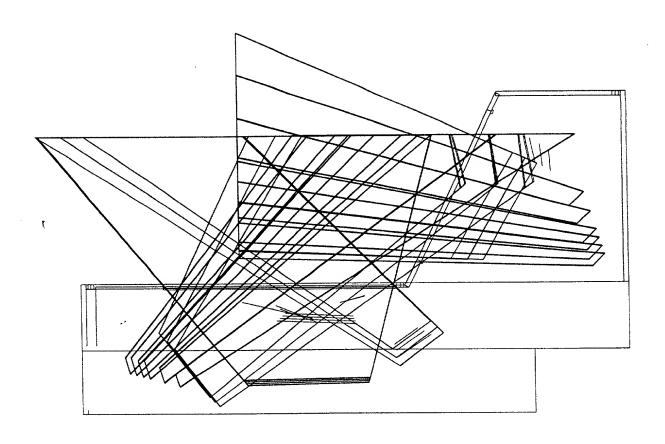






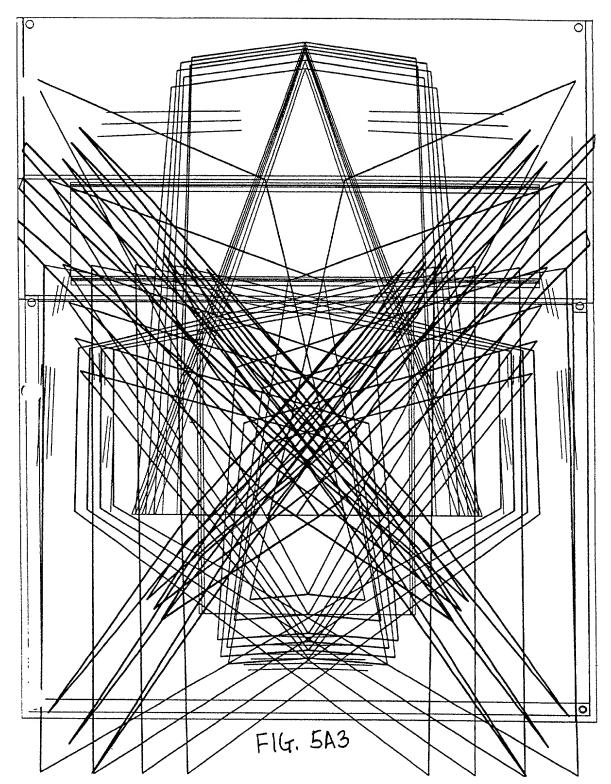
60/335

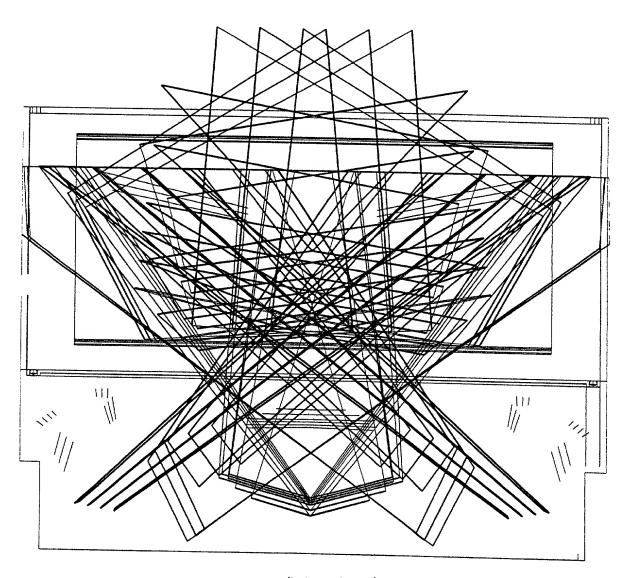




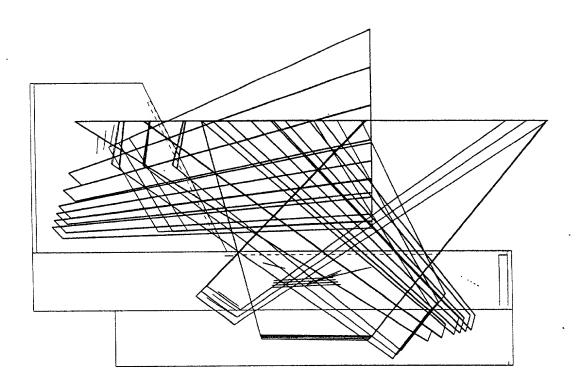
F16.5A2

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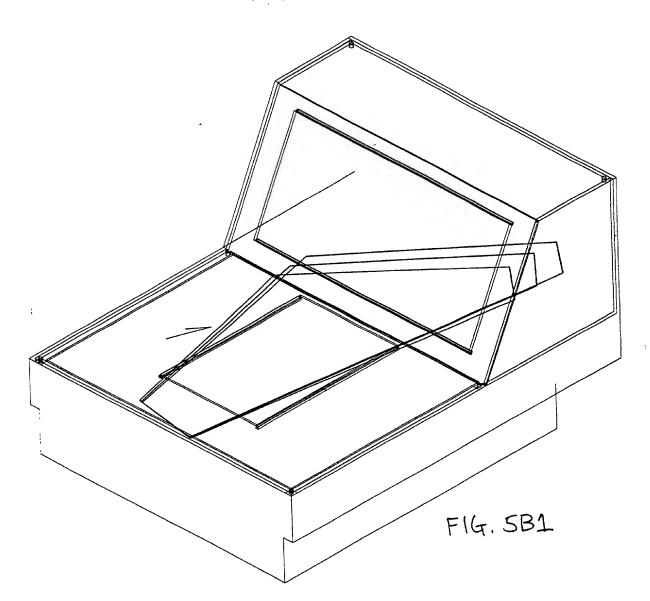


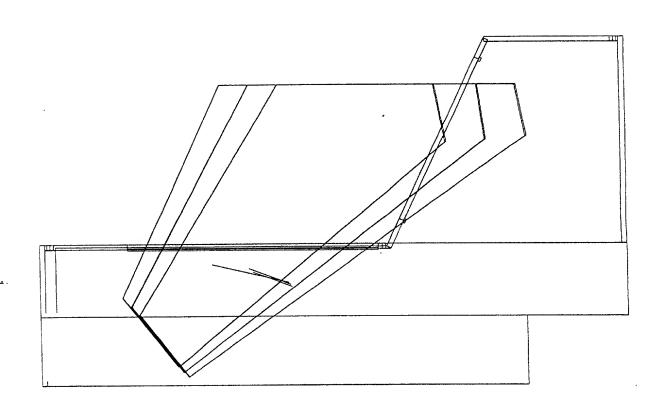


F14.5A4

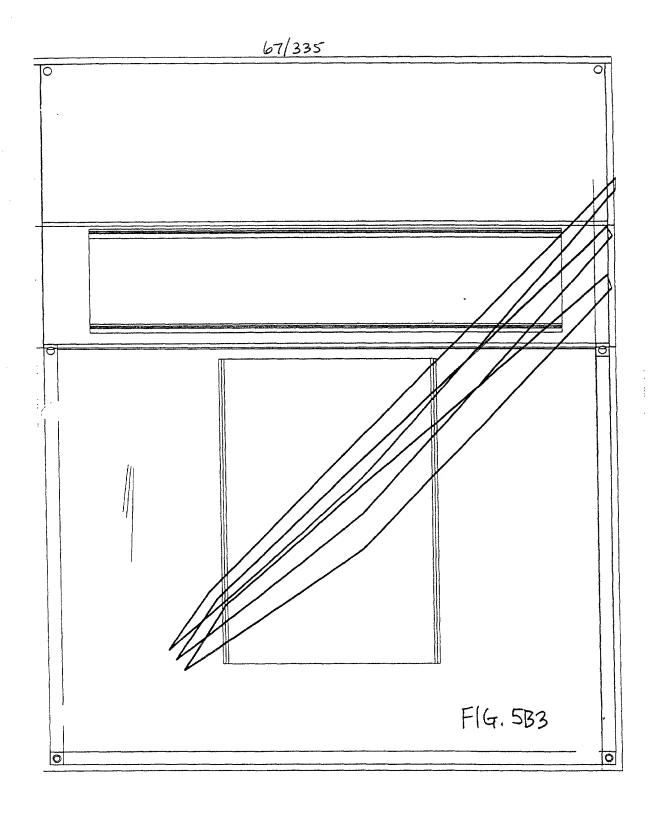


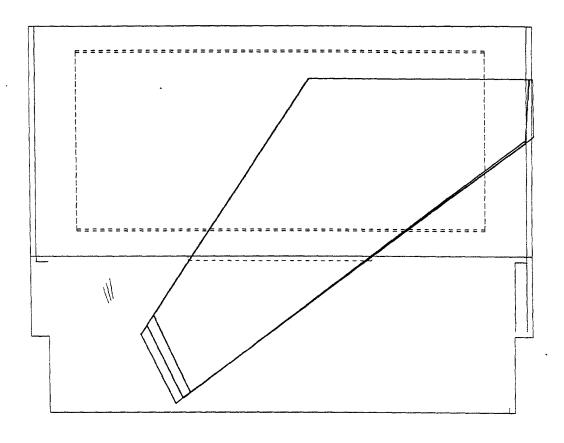
F19.5A5





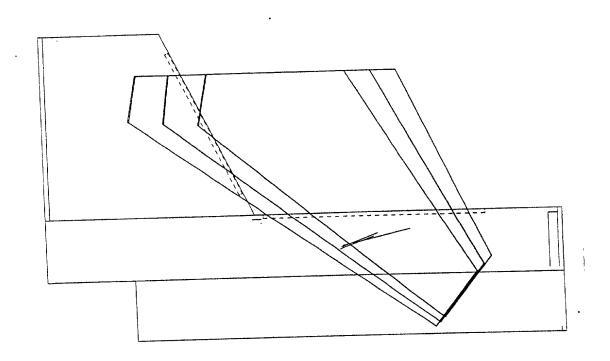
F14. 5B2



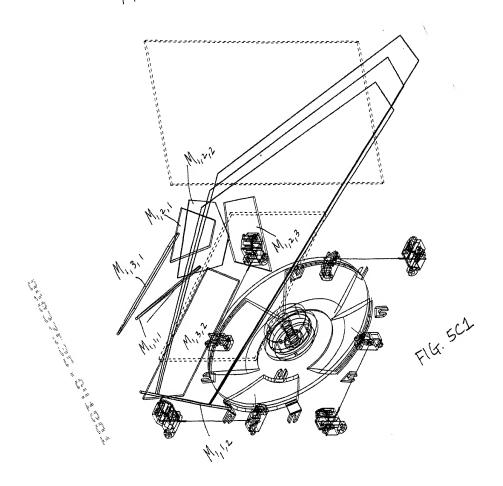


F14.5B4

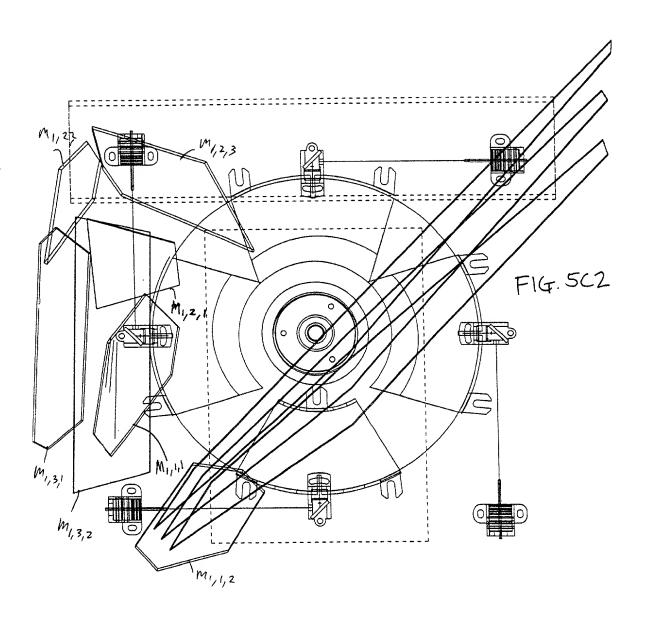
ted and the tree of each man and the least of the least two

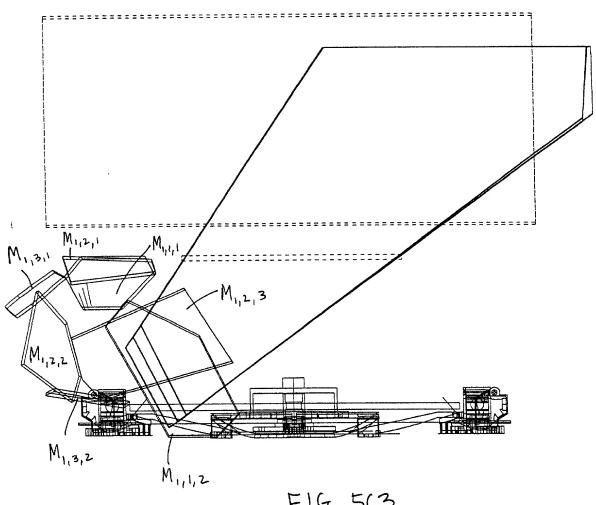


F16.585



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F19.503

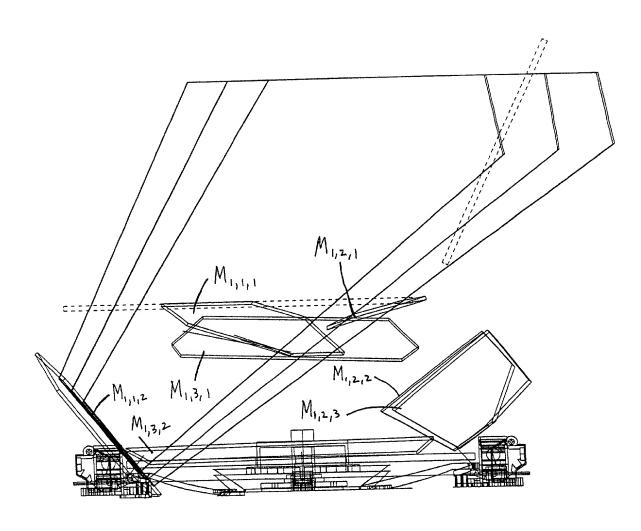
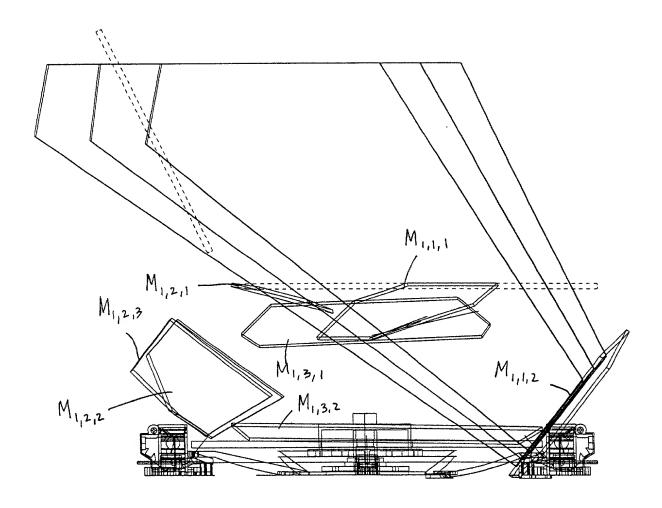
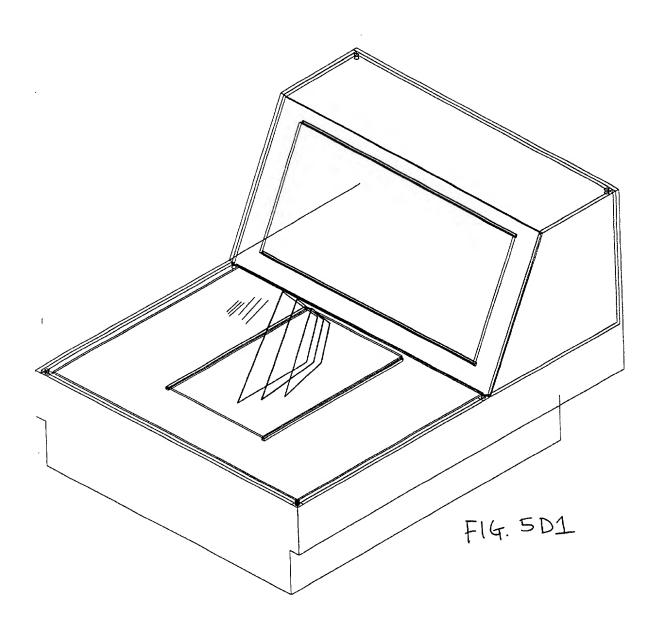


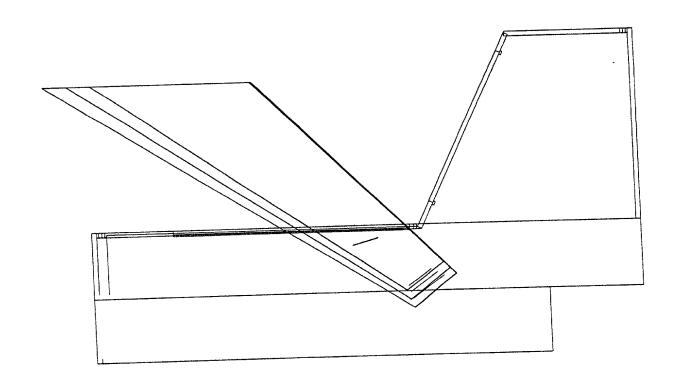
FIG. 5C4



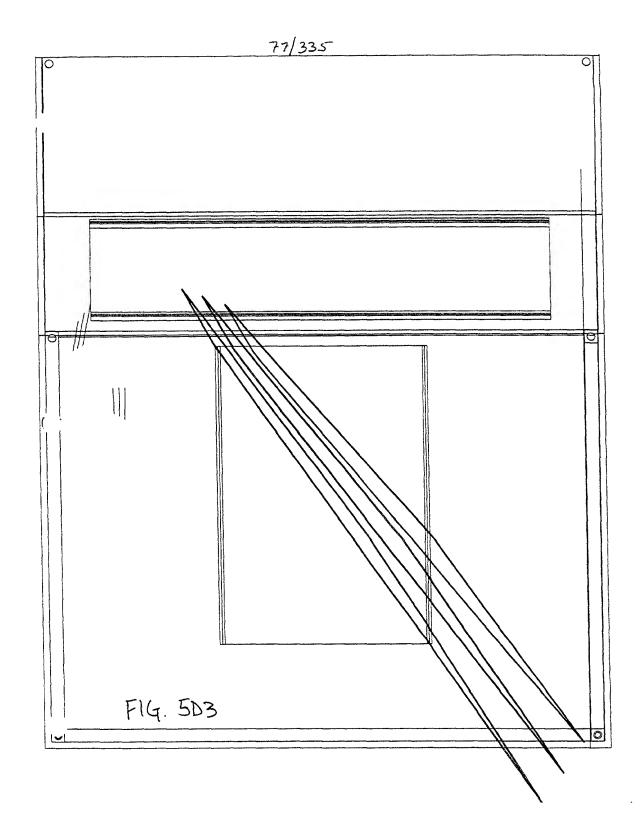
F1G. 5C5

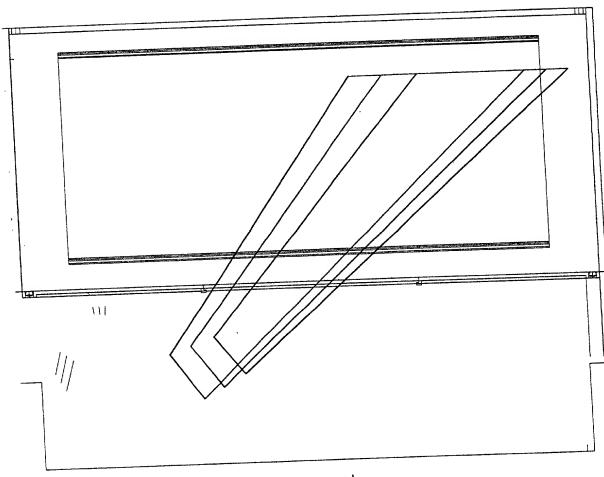
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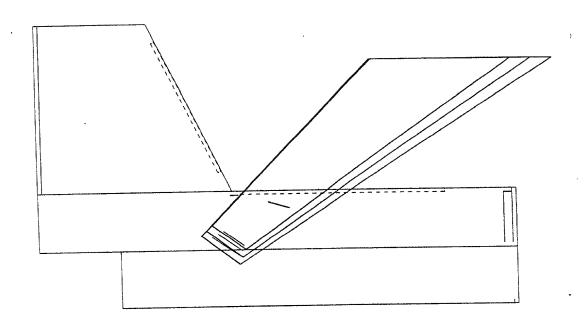


F14.5D2



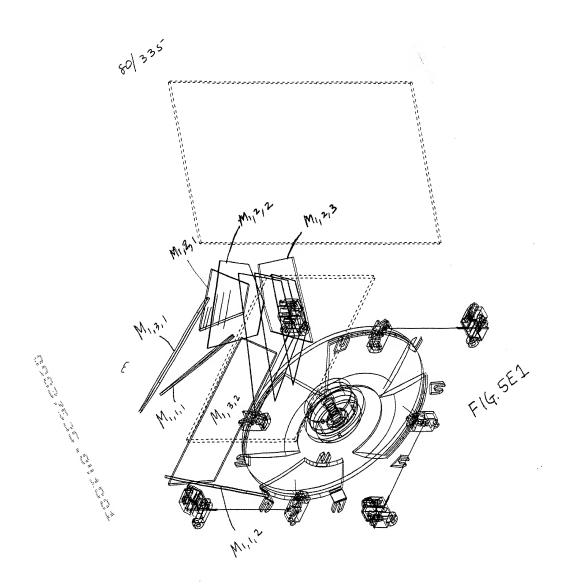


F14, 504

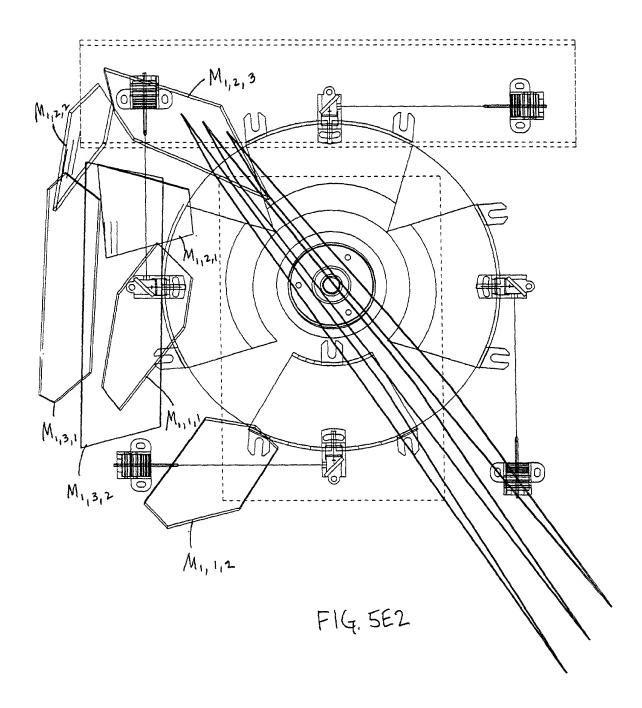


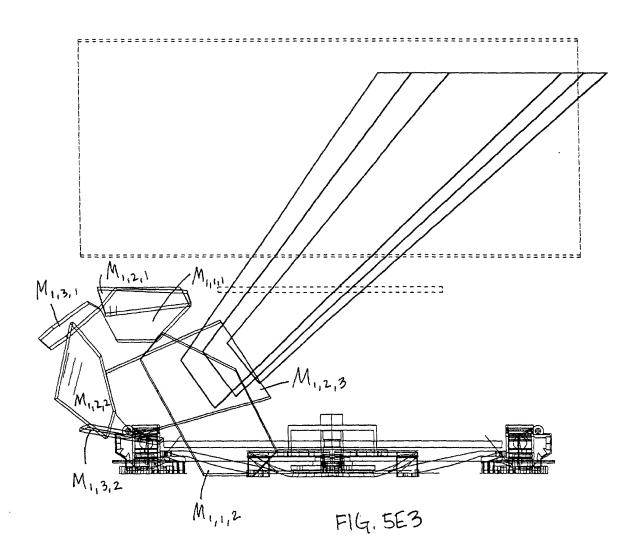
F14.5D5

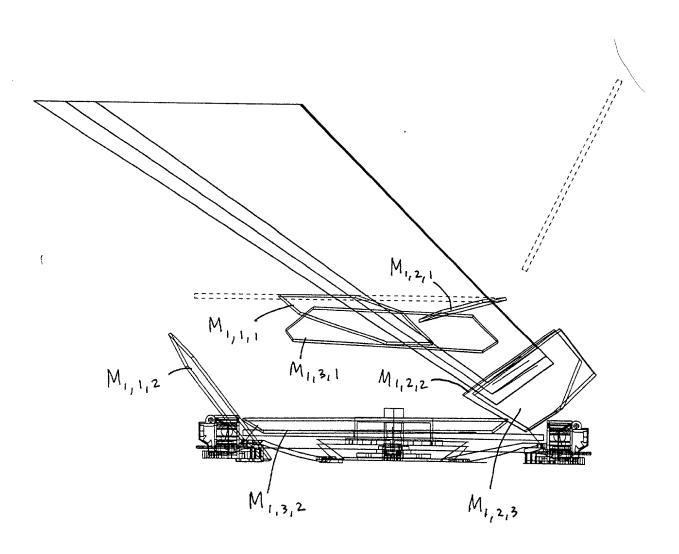
,



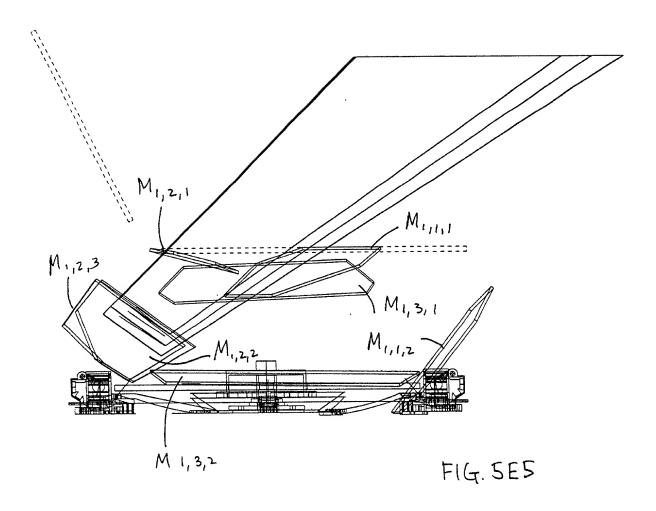
81/335

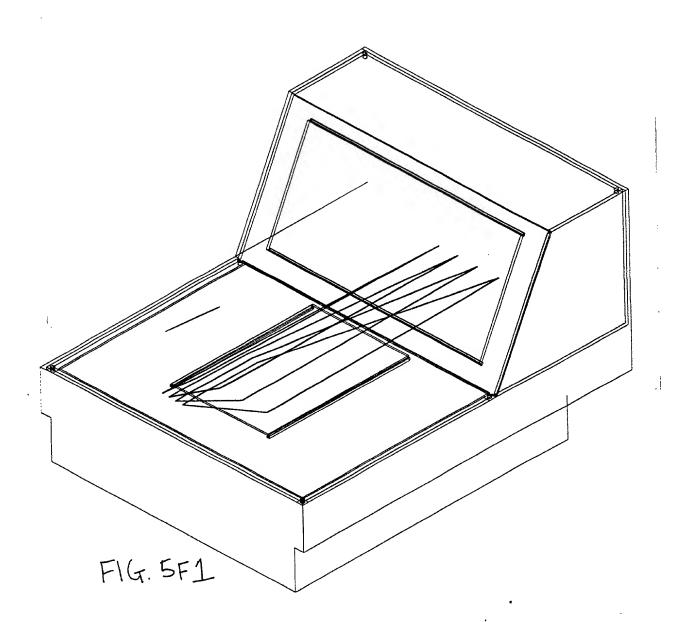


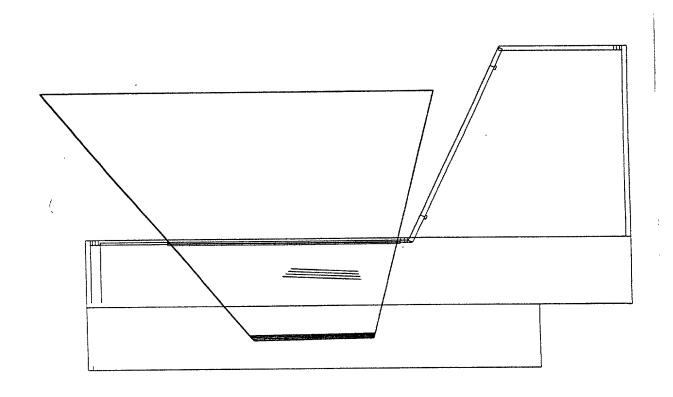




F16.5E4

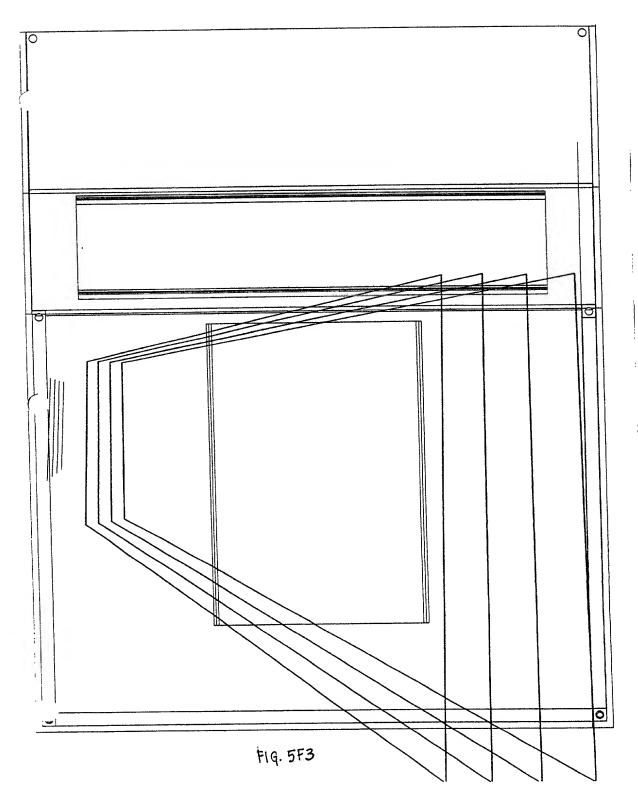


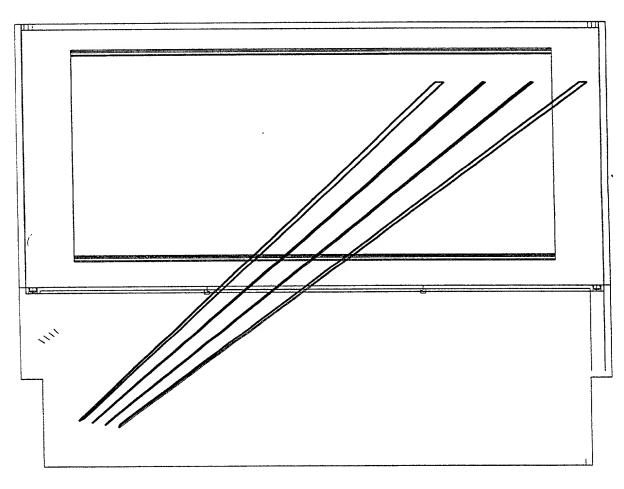




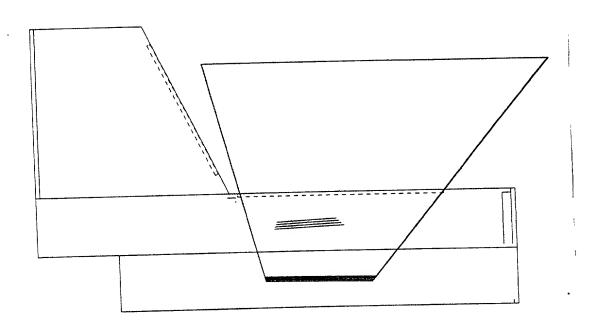
F1G. 5F2

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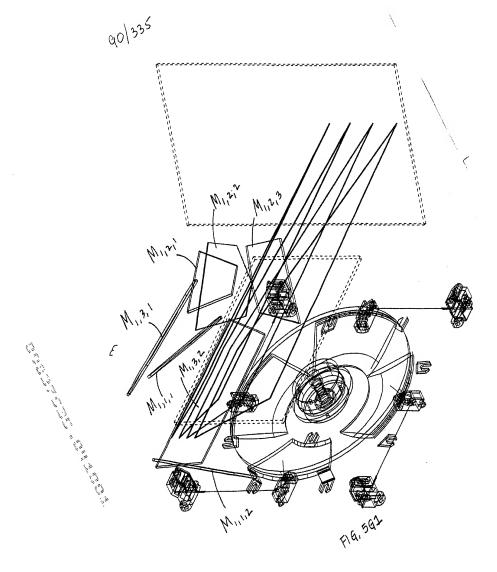




F19, 5F4



F19, 5F5



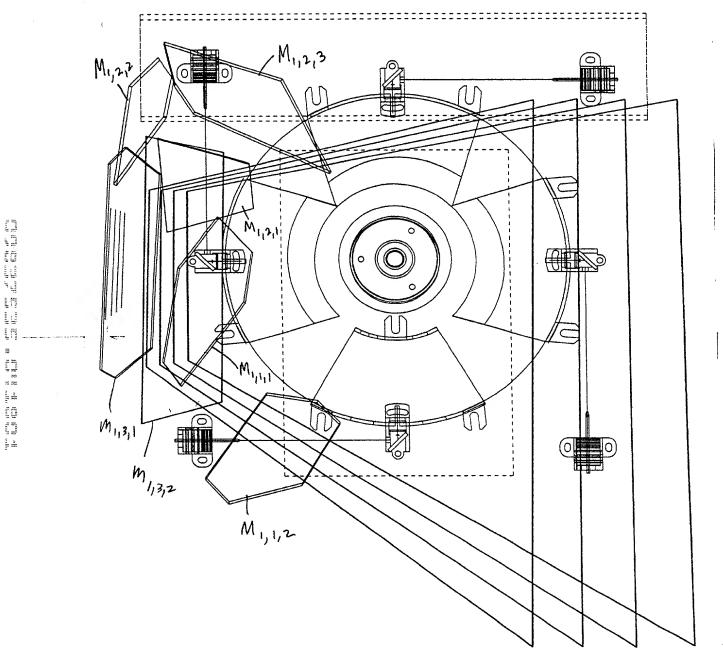


FIG. 592

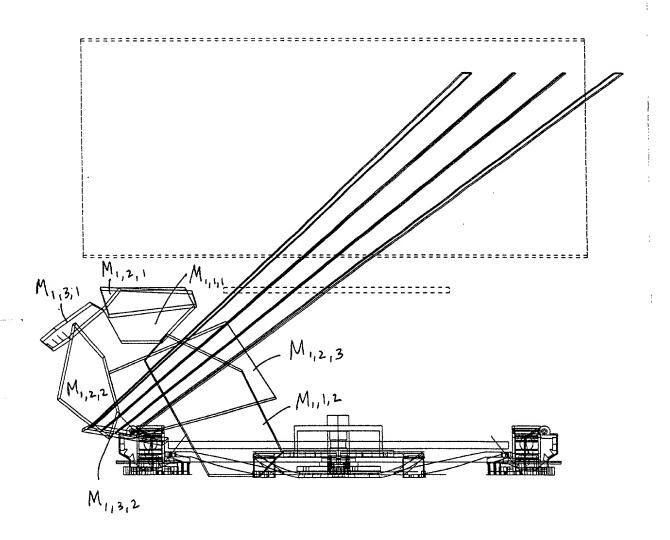
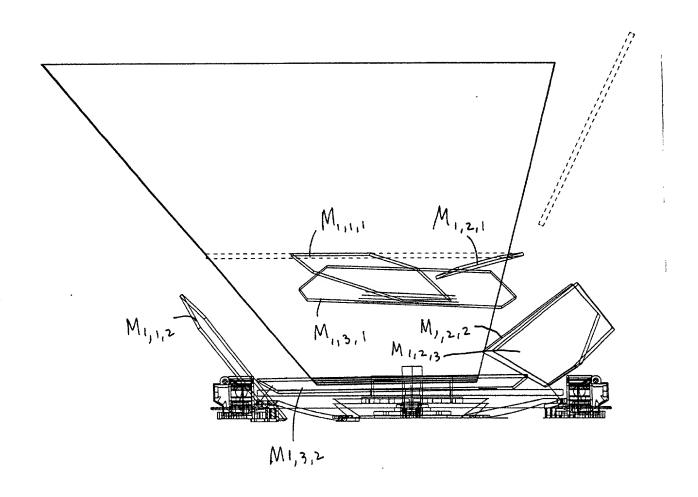
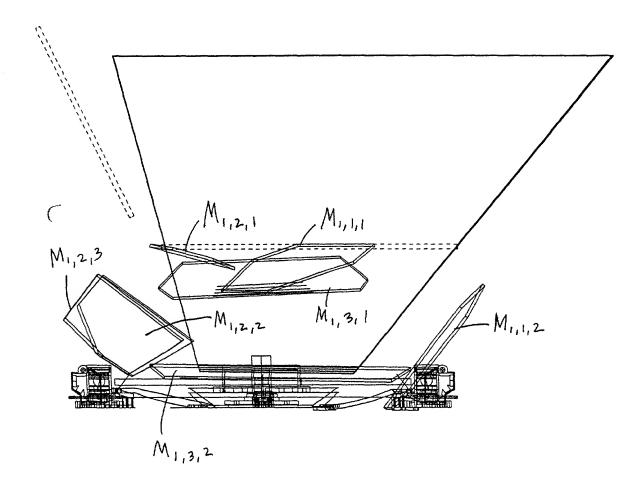


FIG 593

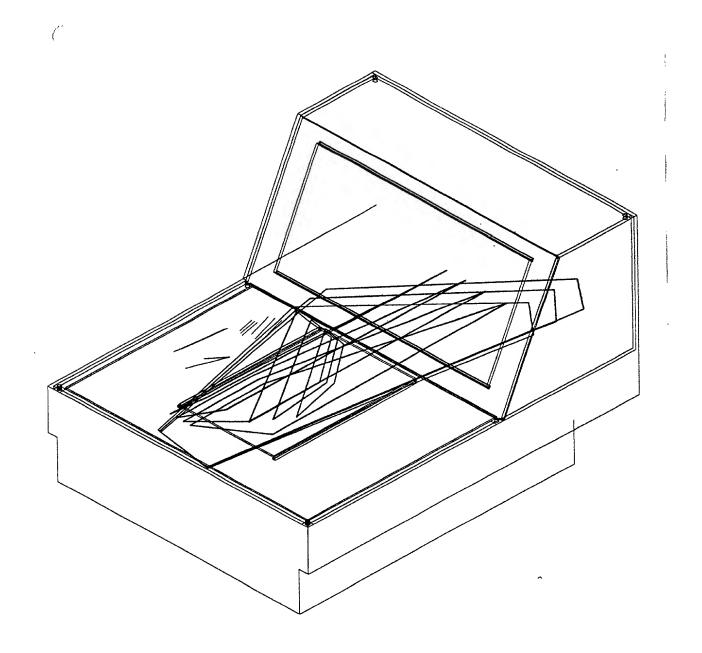


F1G,5G4



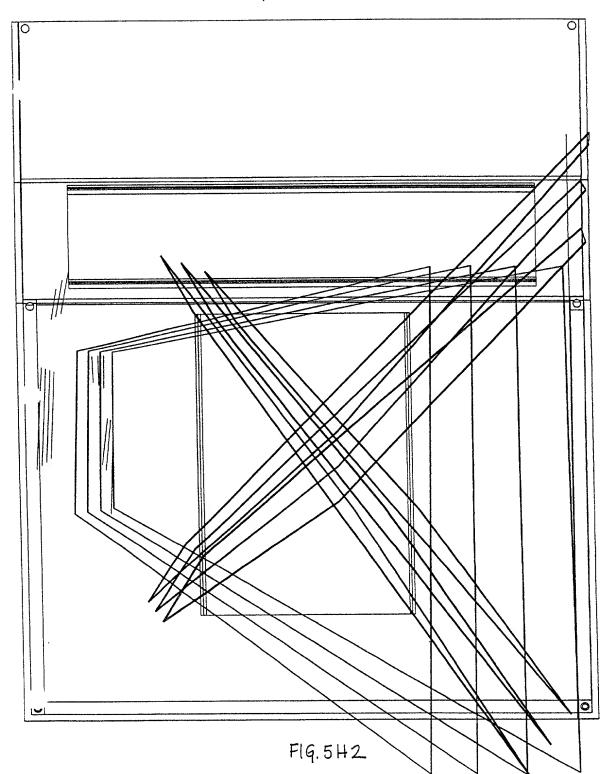
F19. 595

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5H1

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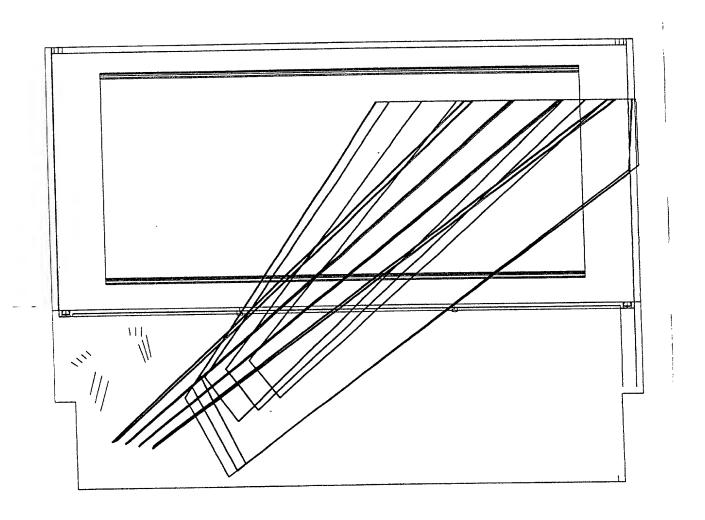
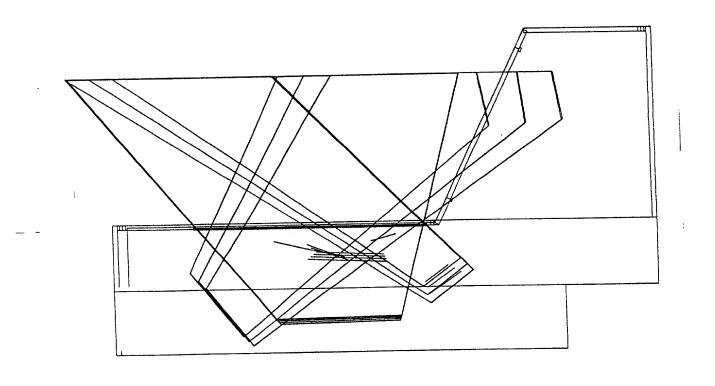


FIG. 5H3

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F19, 5H4

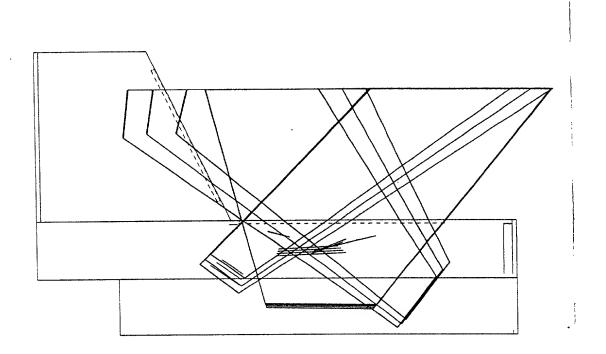
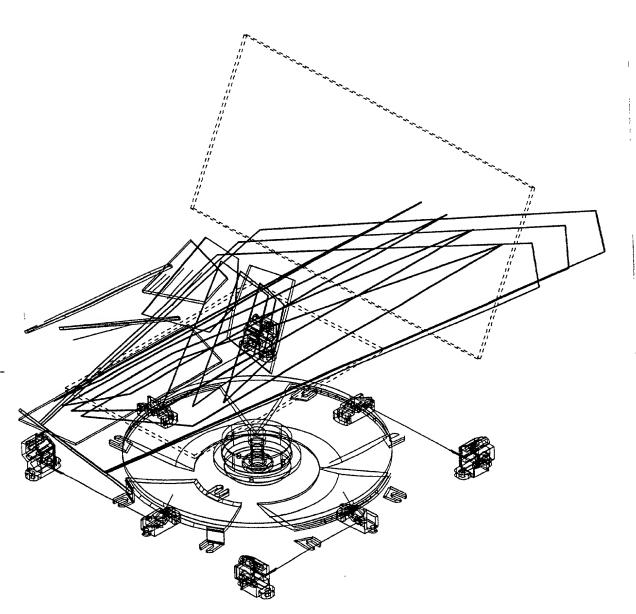
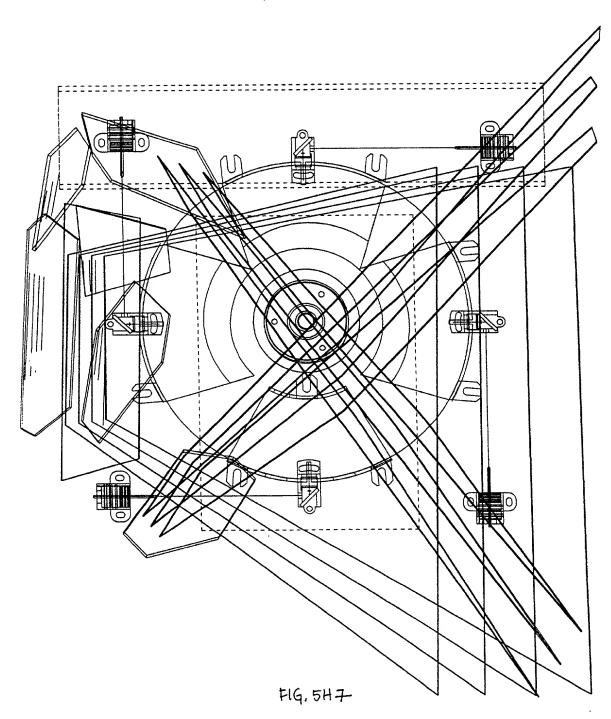
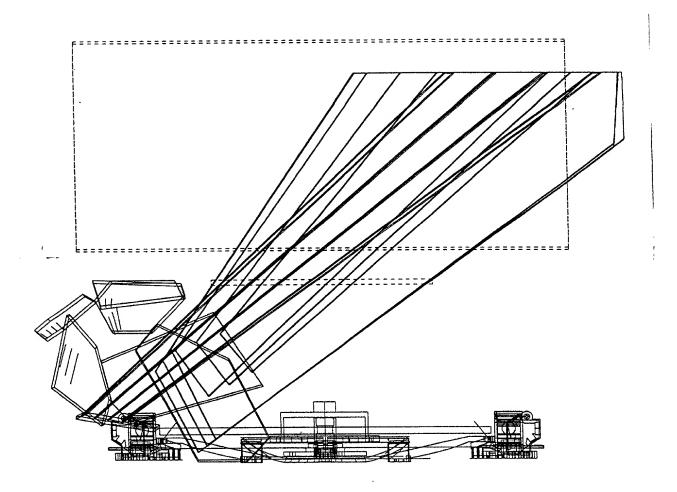


FIG. 545

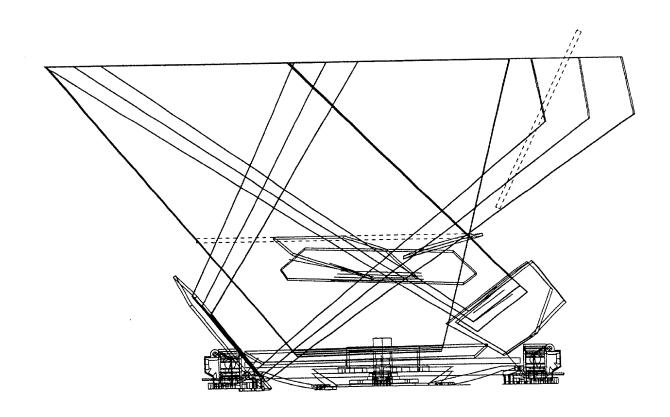


F19, 5H6





F19. 5H8



FIG, 5H9

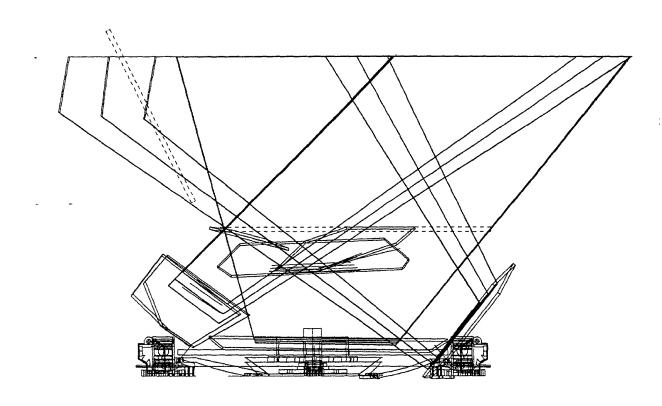


FIG. 5 H10

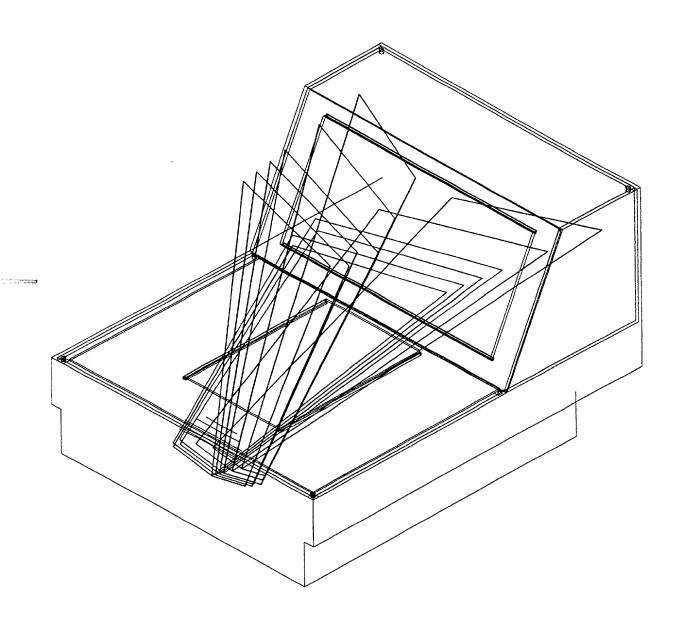


FIG. 511

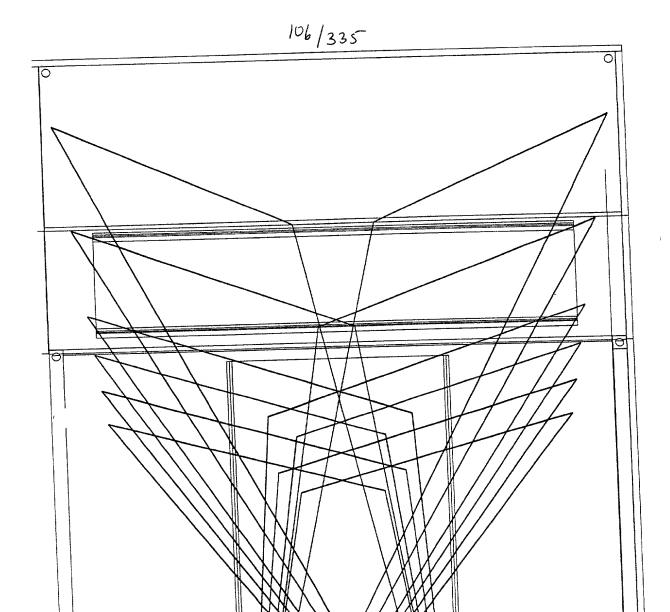
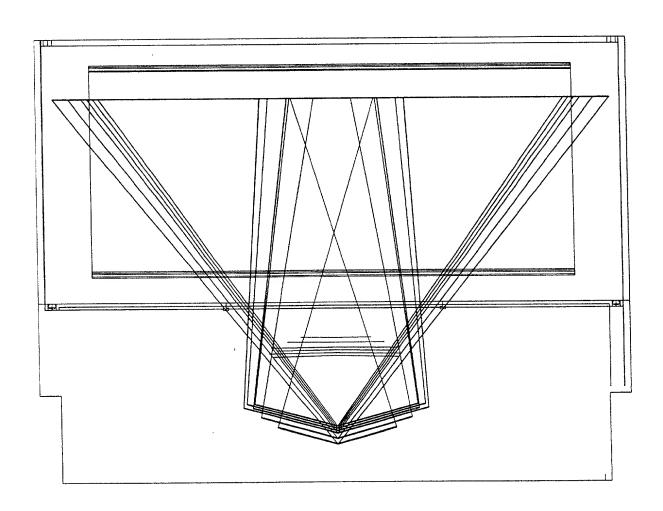
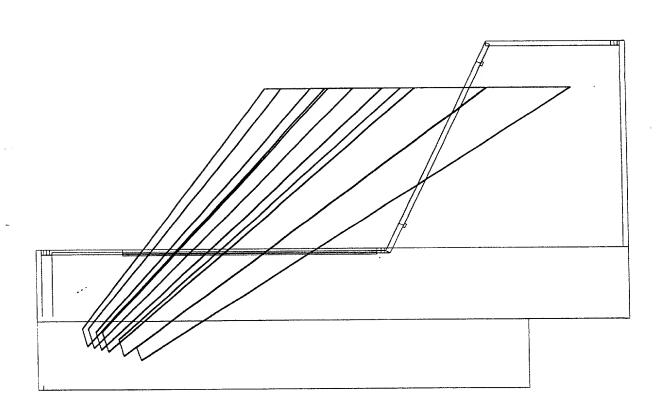


FIG. 512

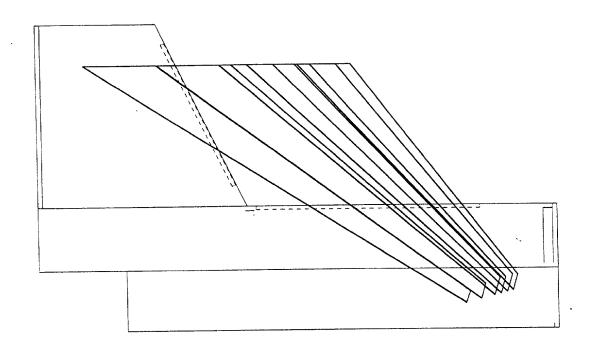


FIG, 5I3



F19, 514

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F19. 5I5

1

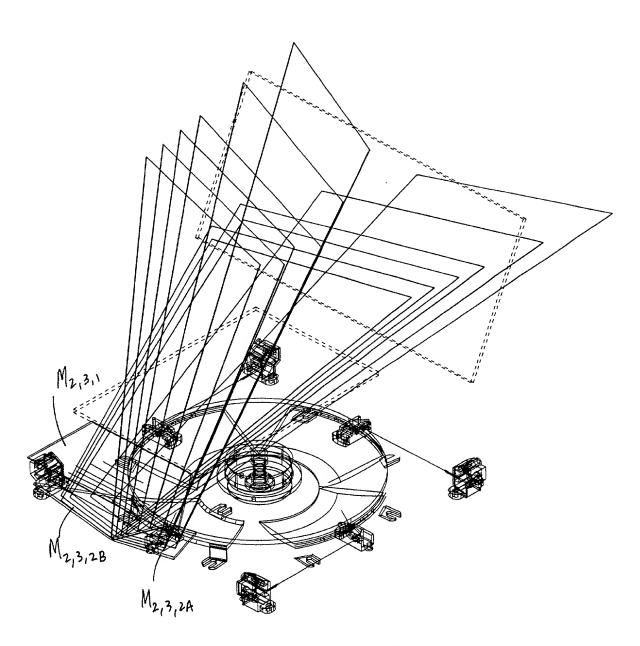
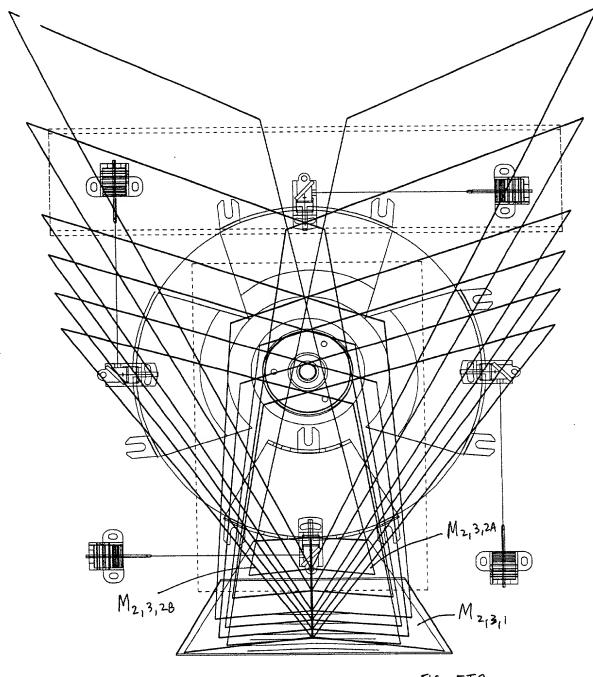


Fig 5J1



FIq. 5J2

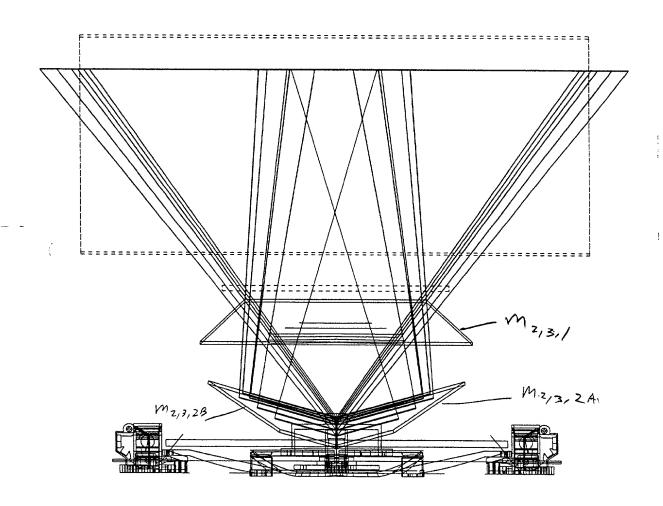


FIG 5J3

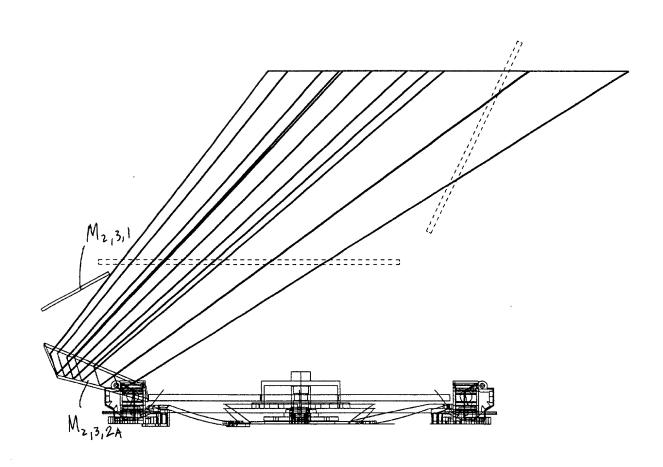
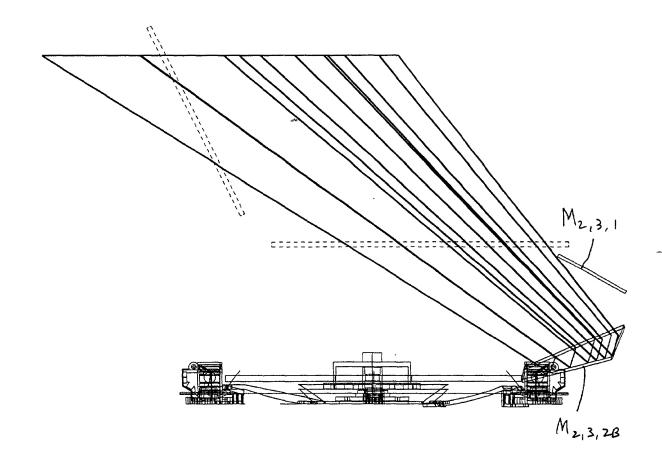


FIG. 5J4



F19, 5J5

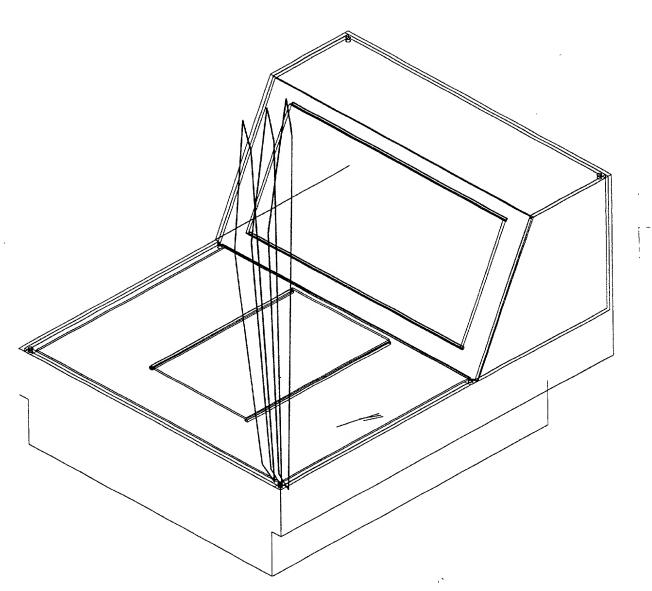


FIG. 5K1

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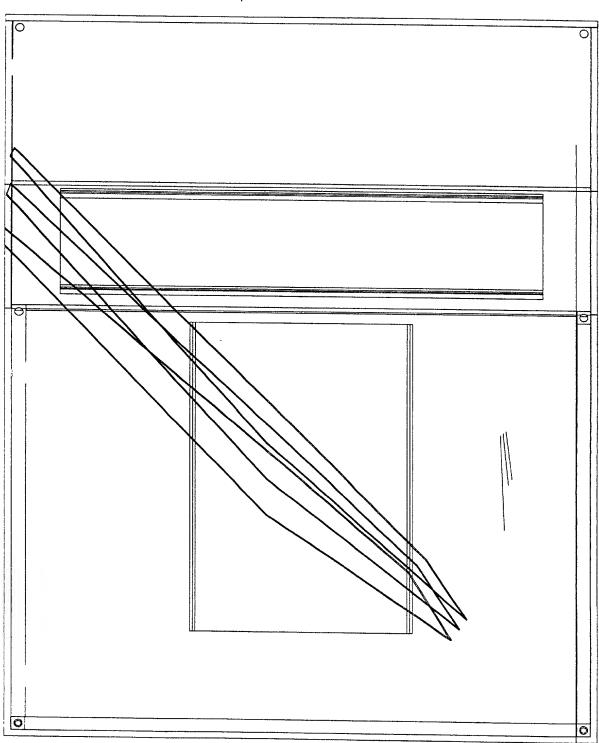


FIG. 5K2

117/335

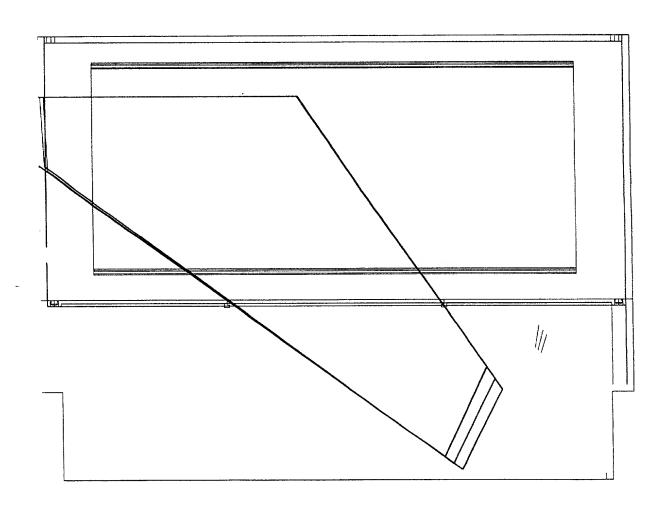
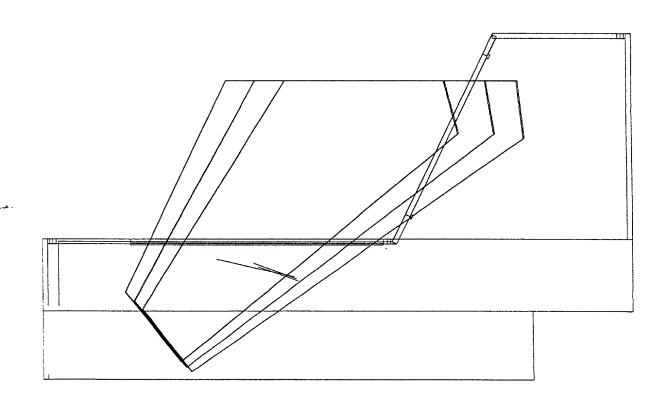


FIG 5K3

....



F19,5K4

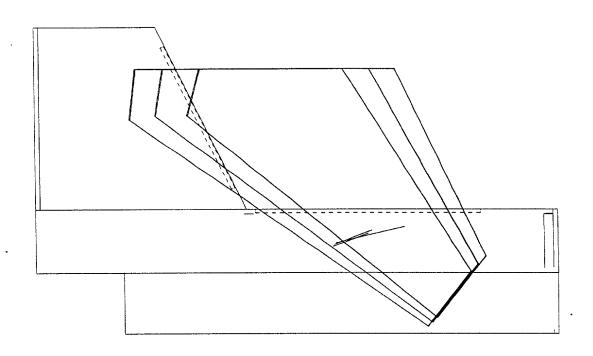
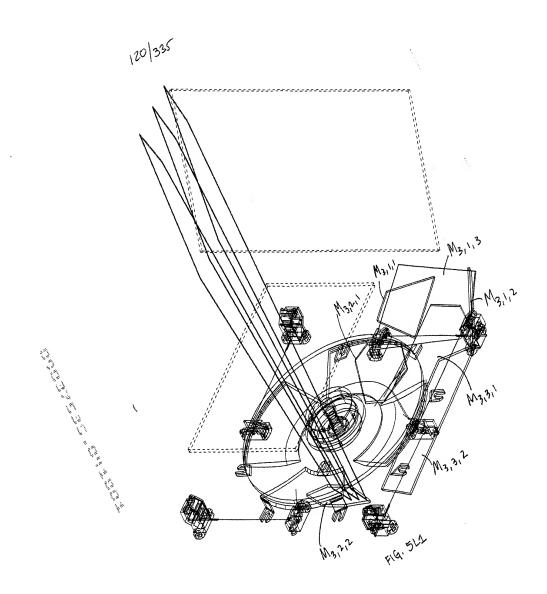


FIG. 5K5

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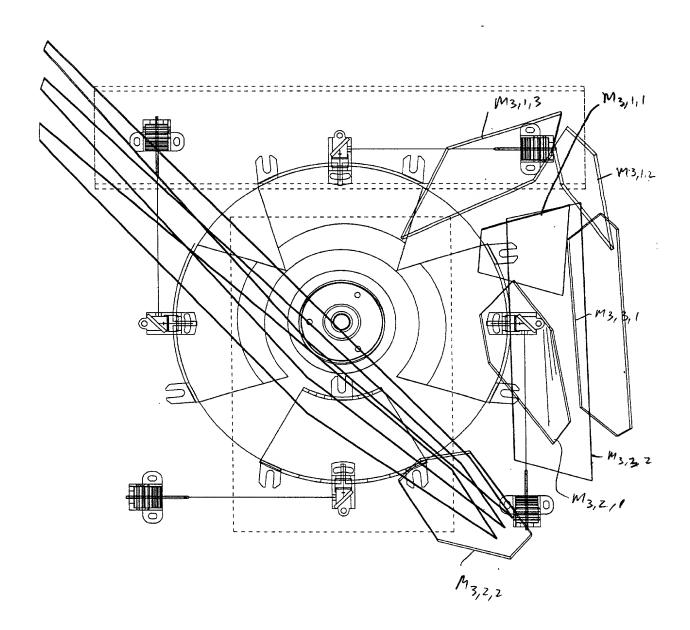
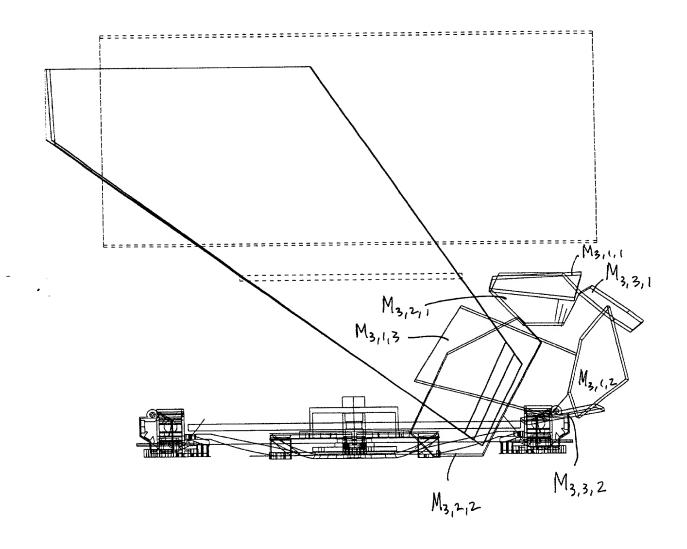


FIG. 512



F19. 513

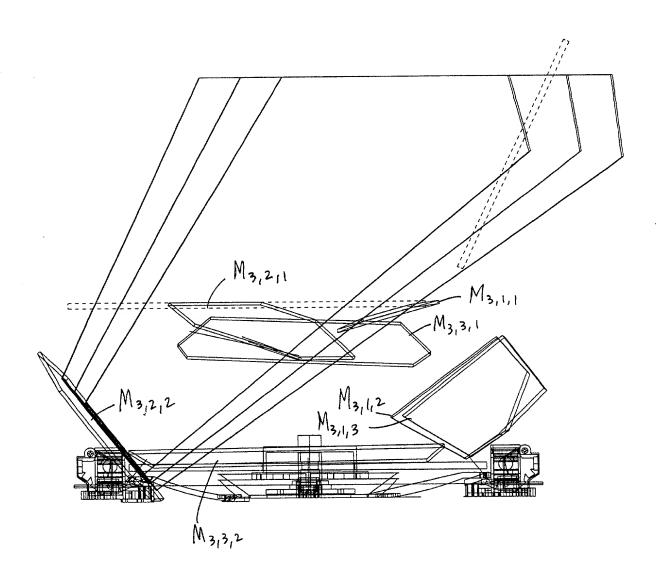


FIG. 514

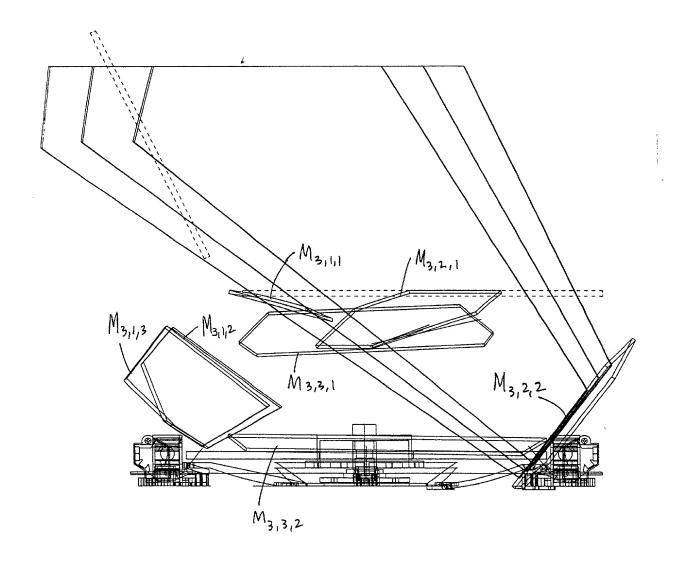


FIG. 5L5

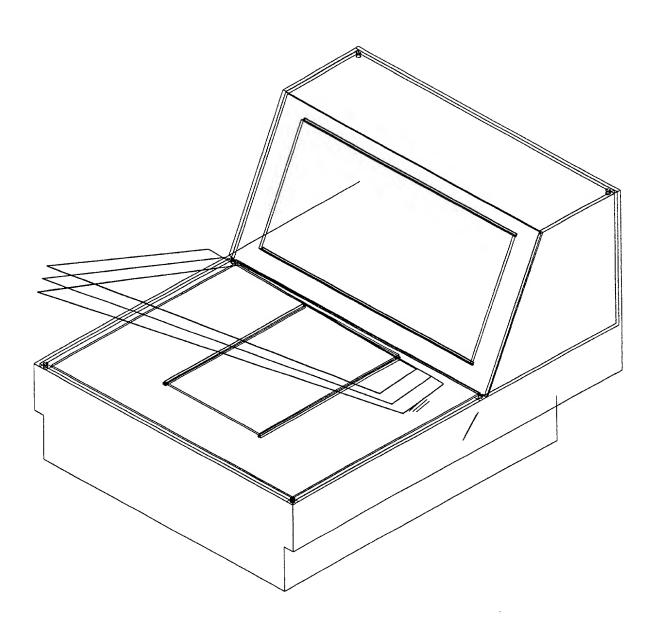
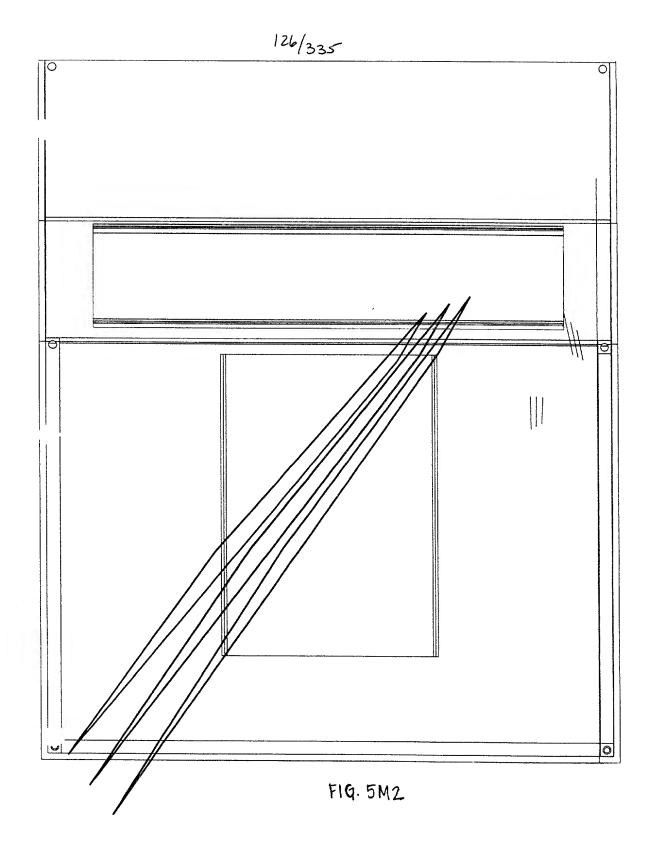
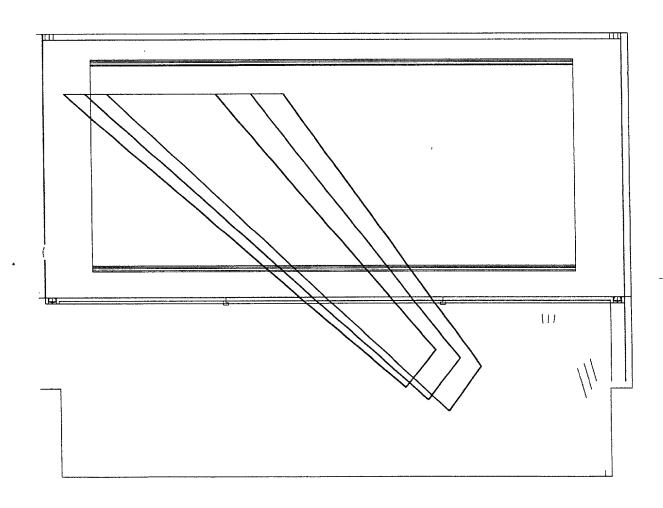


FIG. 5M1





F19. 5M3

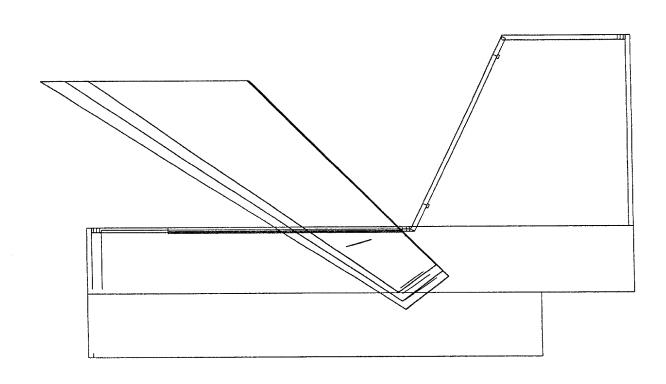


FIG. 5M4

129/335-

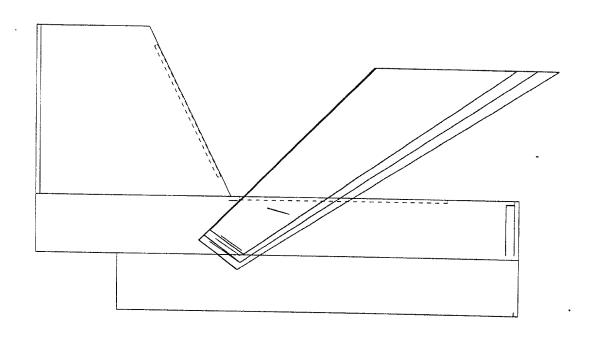
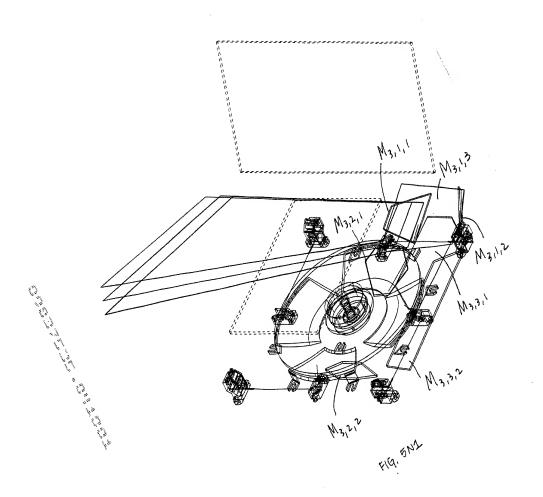
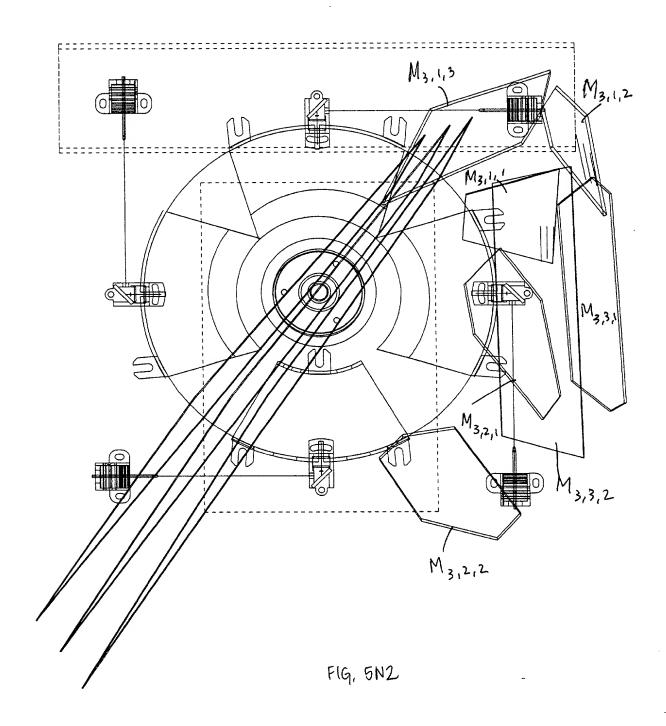
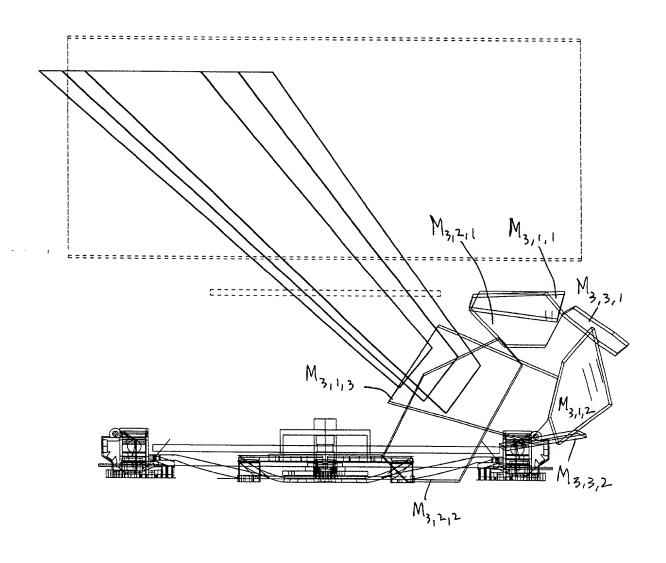


FIG.5M5



131/335-





F19.5N3

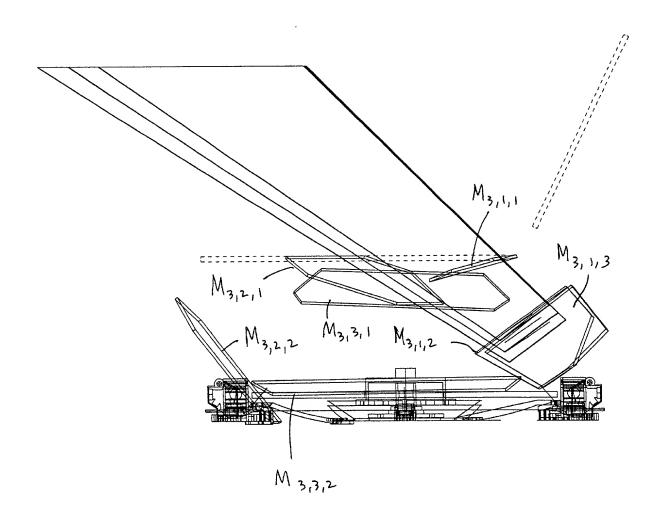


FIG. 5N4

134/335-

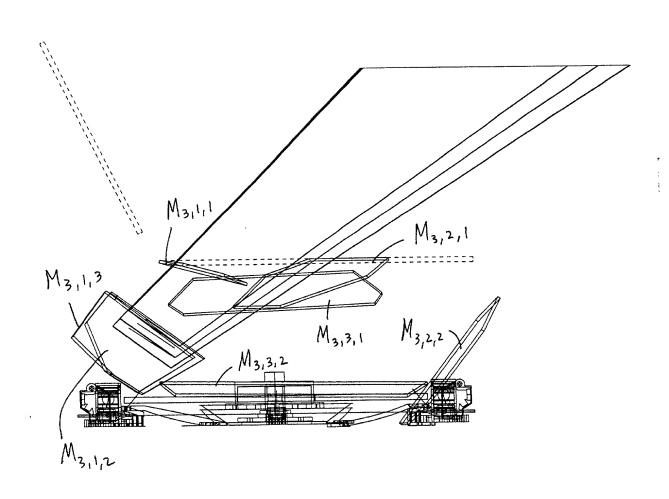


FIG .5N5

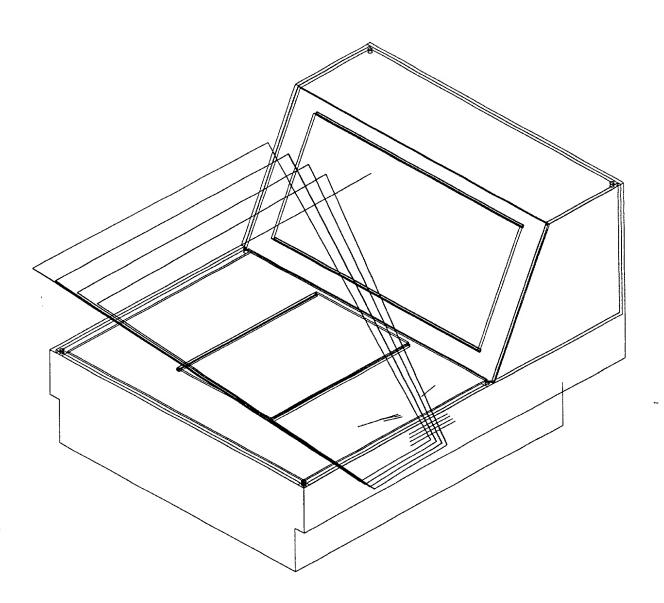
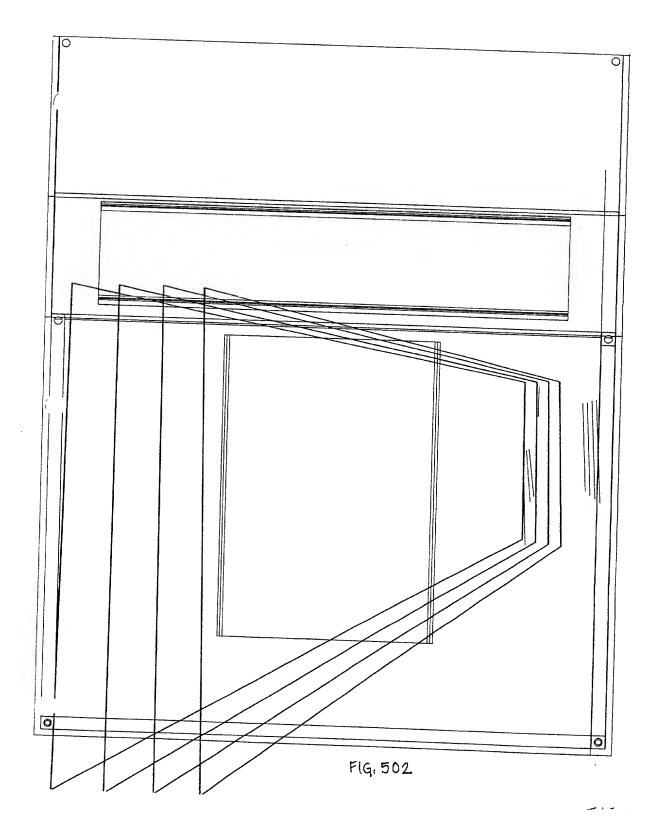


FIG. 501

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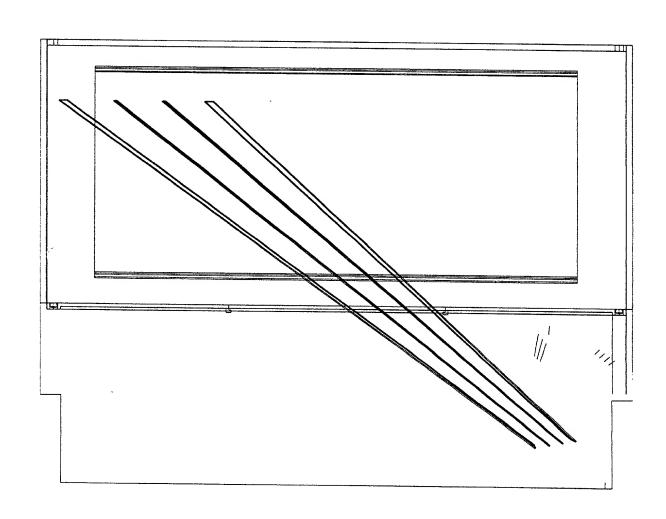


FIG. 503

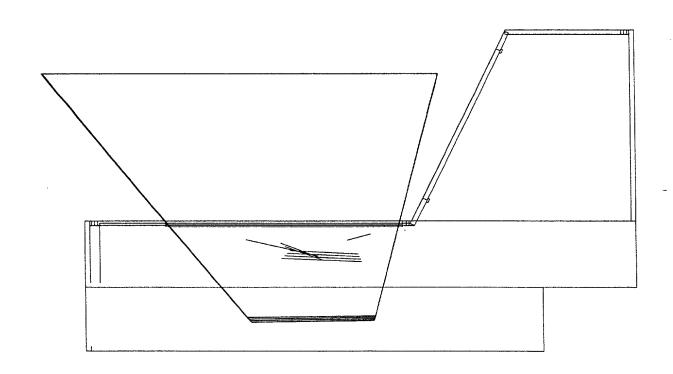


FIG. 504

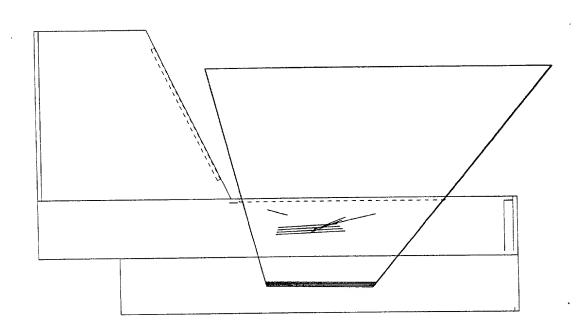
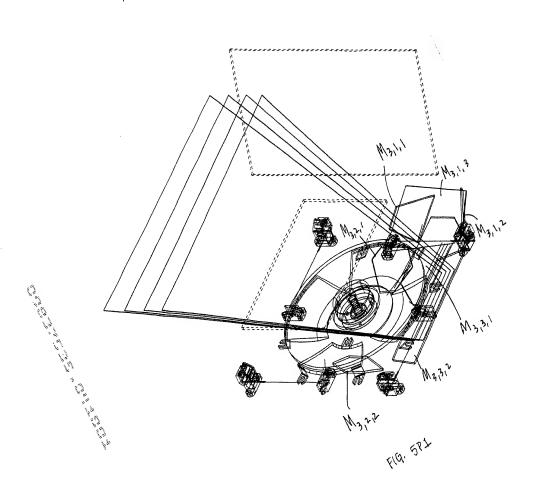
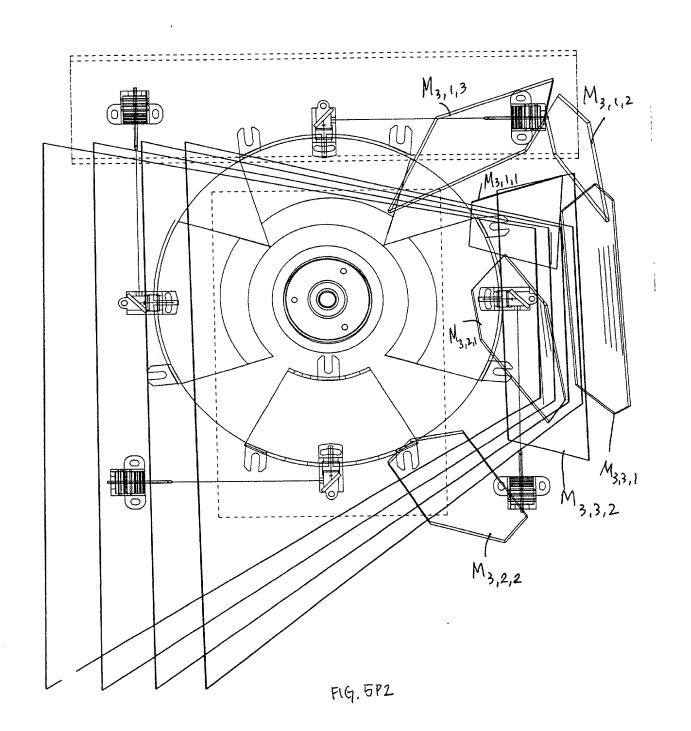
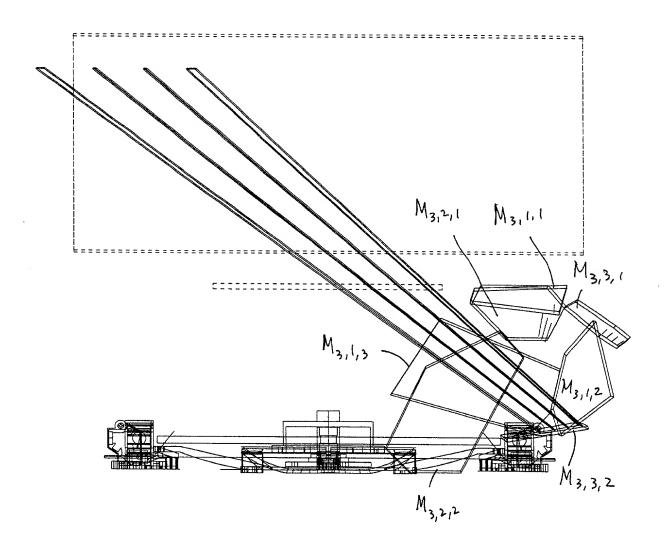


Fig. 505

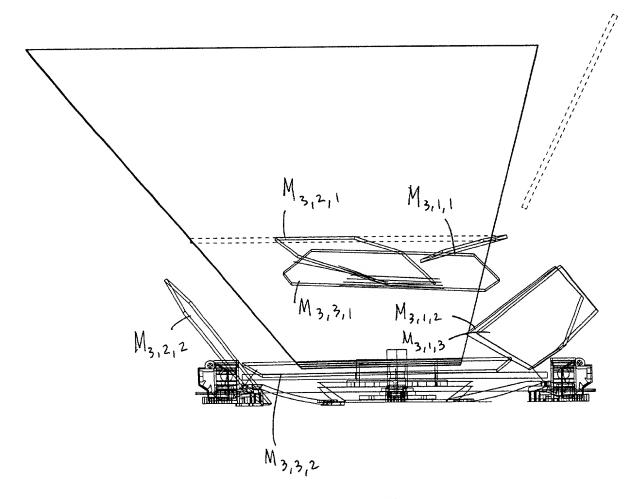
Í



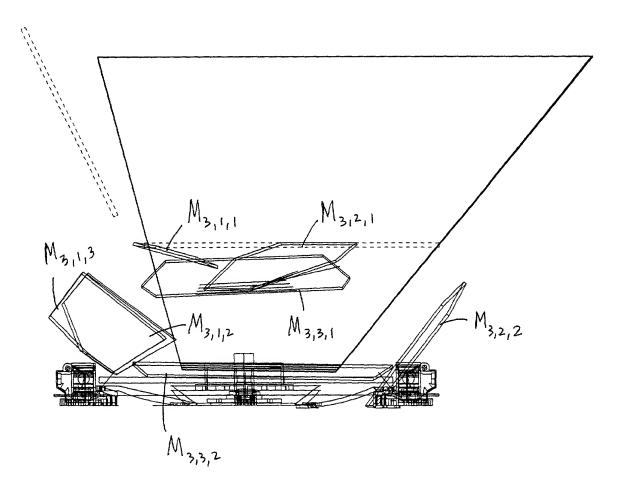




. FIG. 5P3



F19.584



F19. 5P5

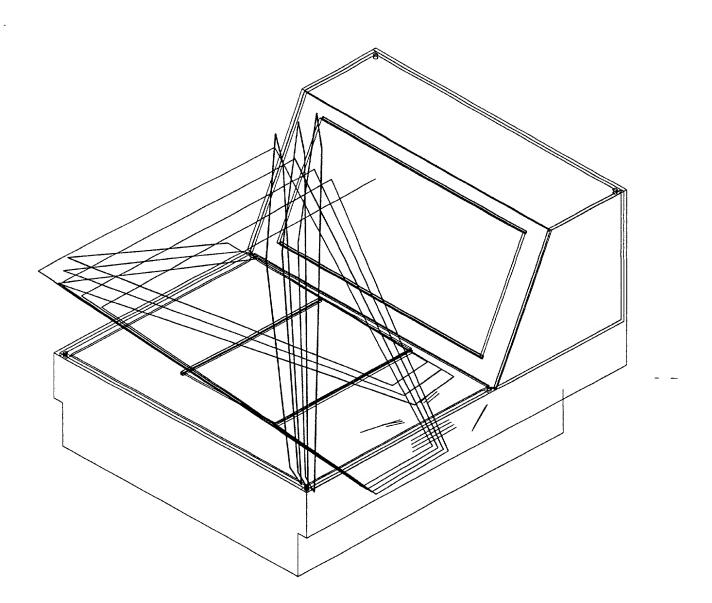
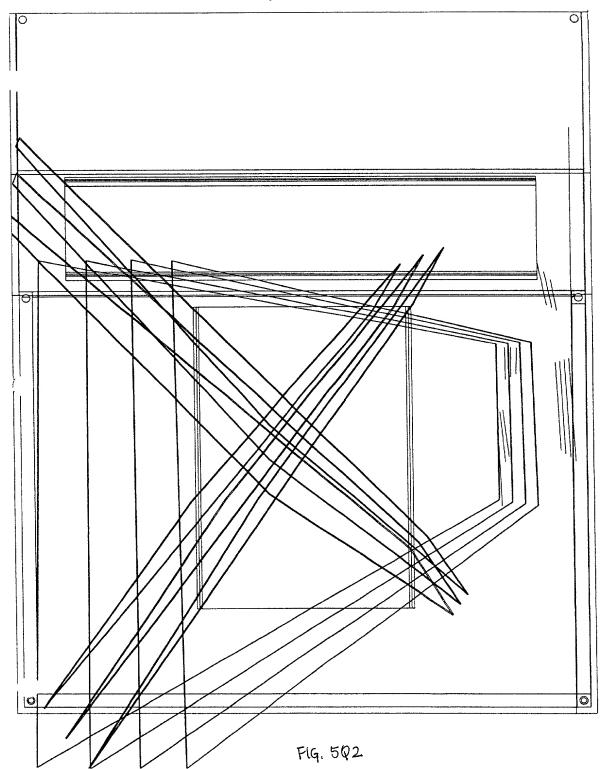
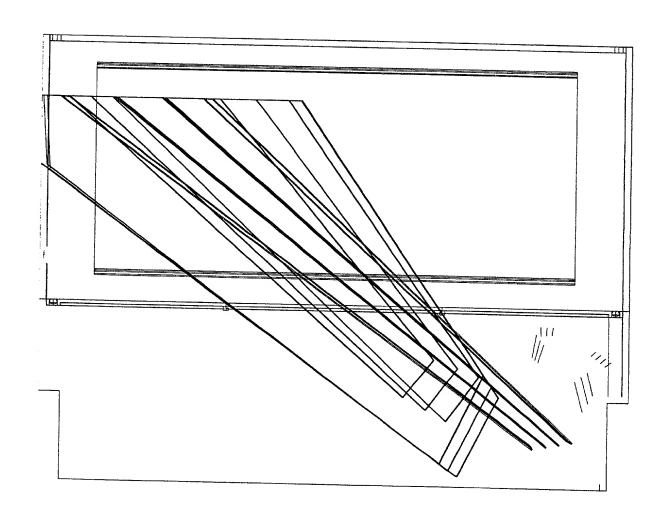
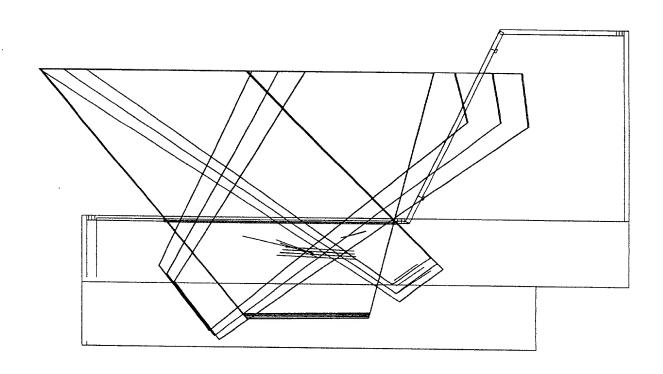


FIG. 5Q1

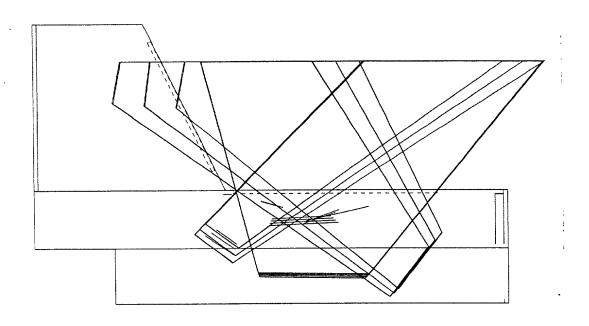




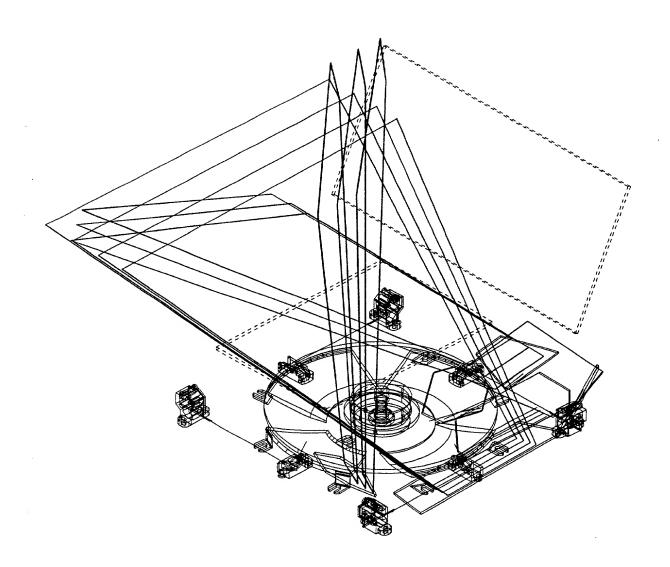
F19. 5 Q3



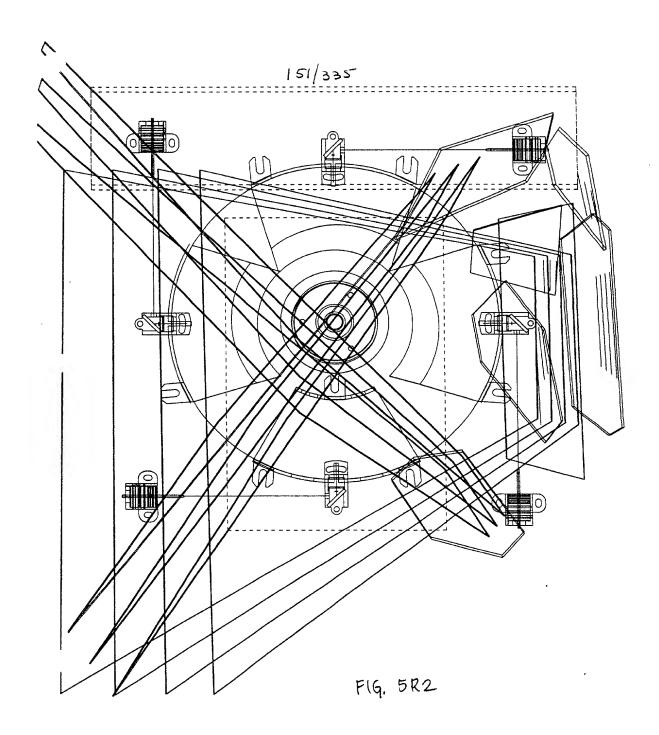
Flq. 5Q4

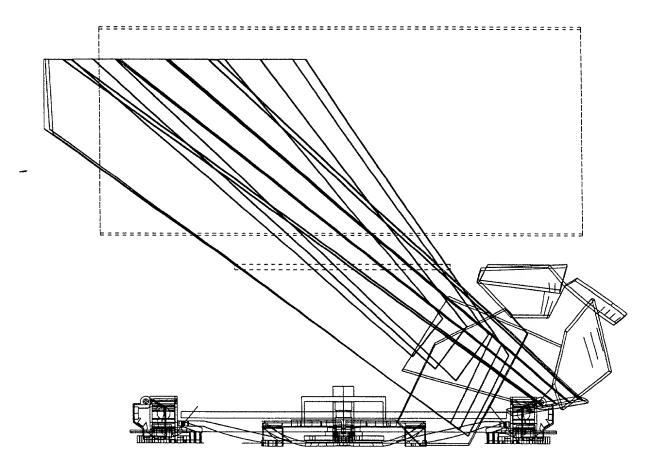


F19, 5Q5



Flq. 5R1





F19, 5R3

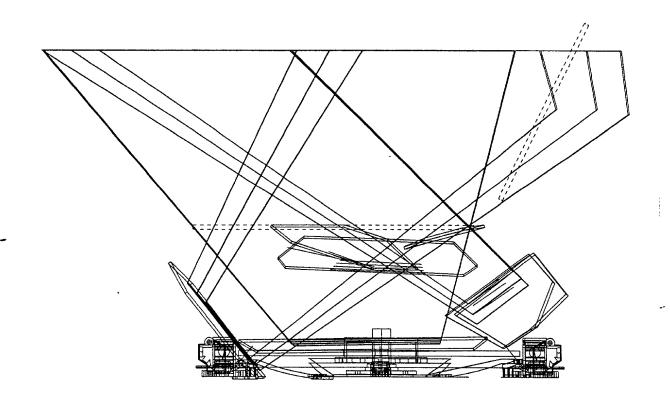


FIG. 5R4

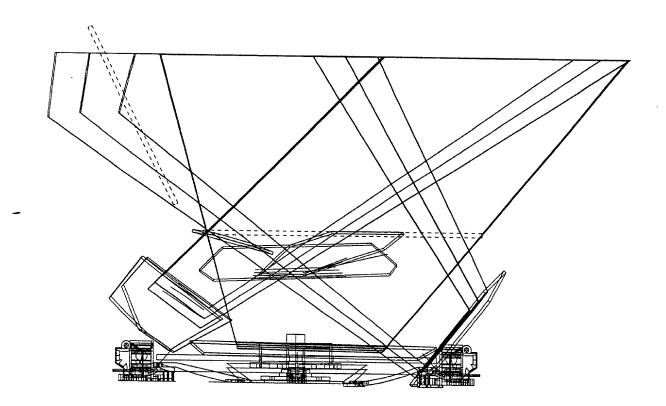


FIG. 5R5

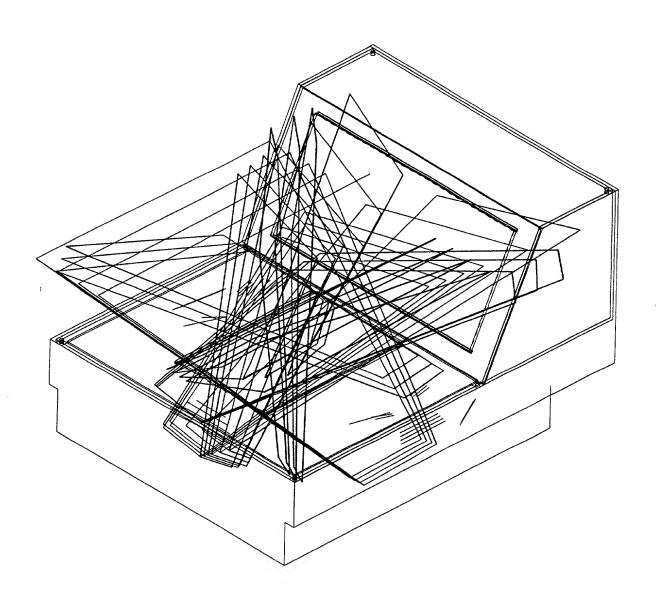
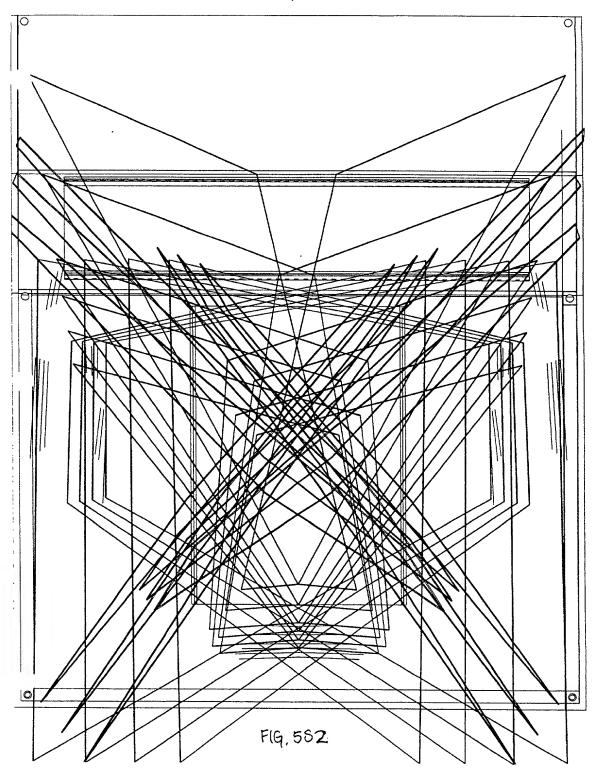


FIG. 581



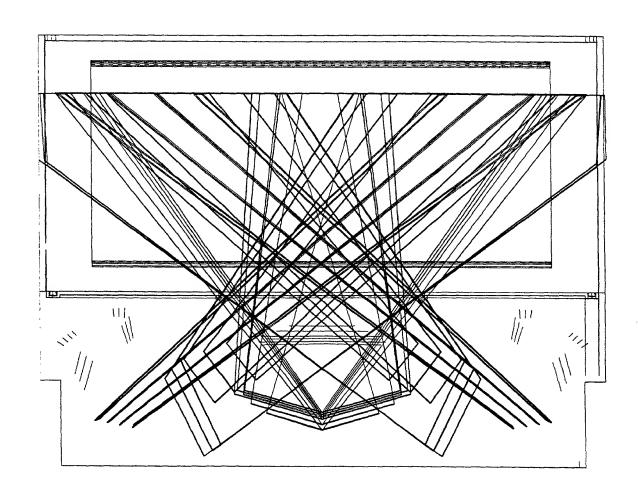
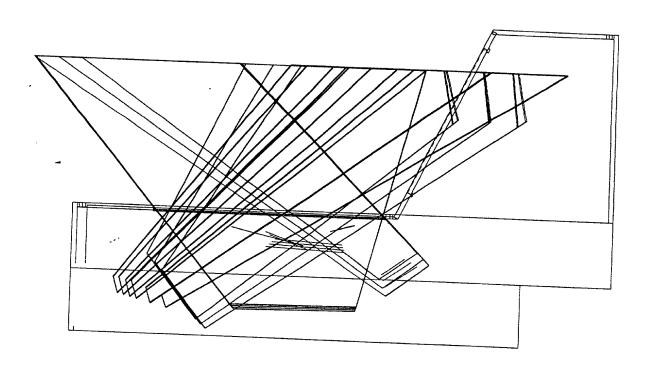
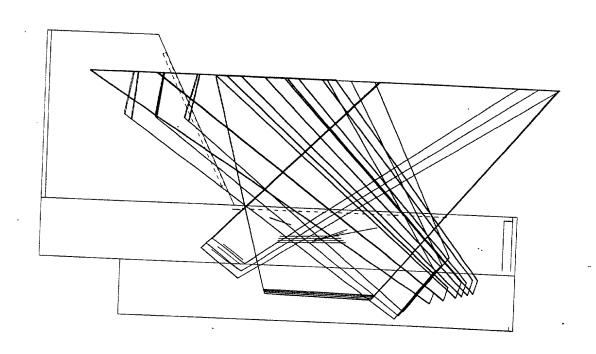


FIG. 553



F19,584



F19.585

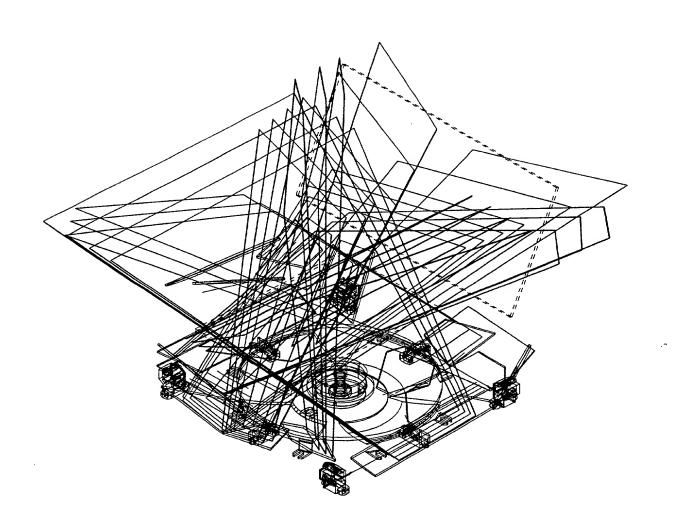
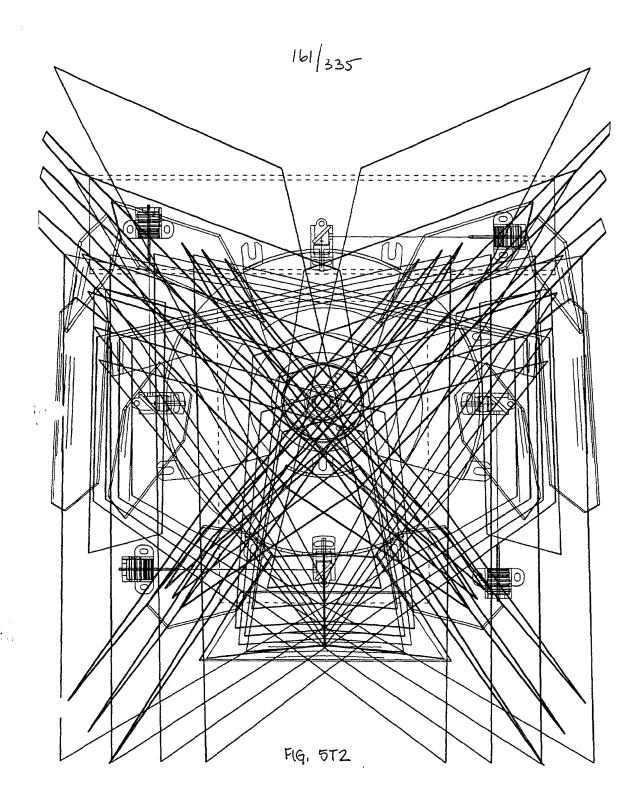
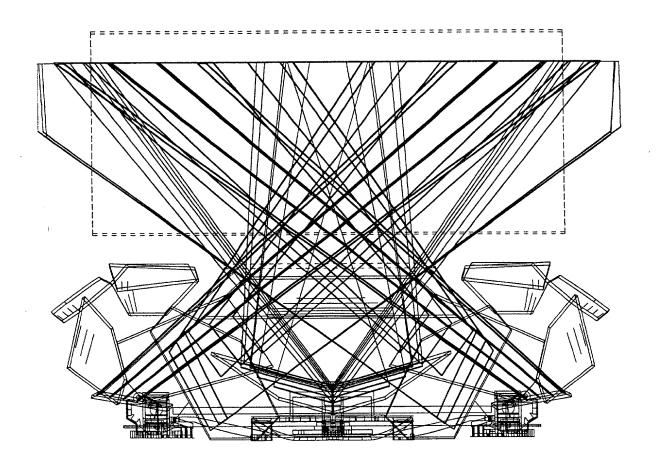


FIG. 5T1





F19, 5T3

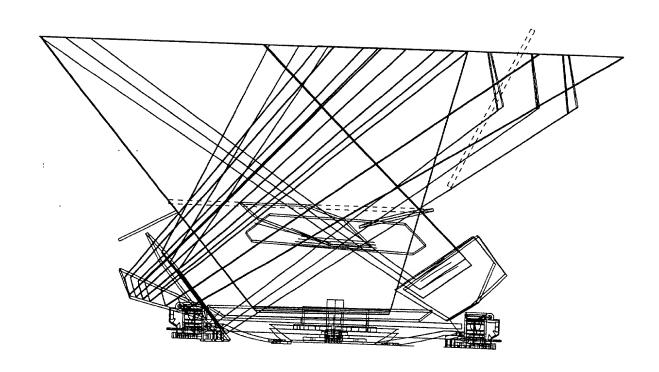
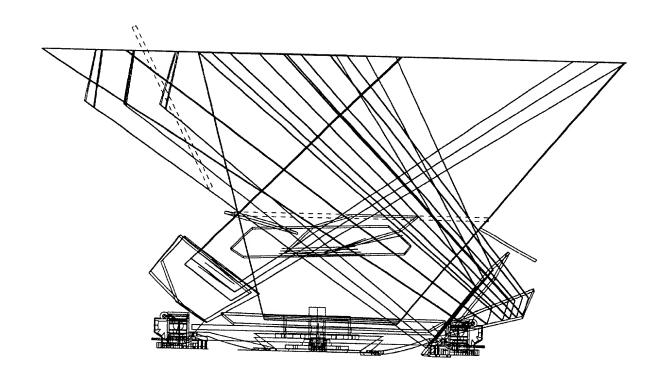
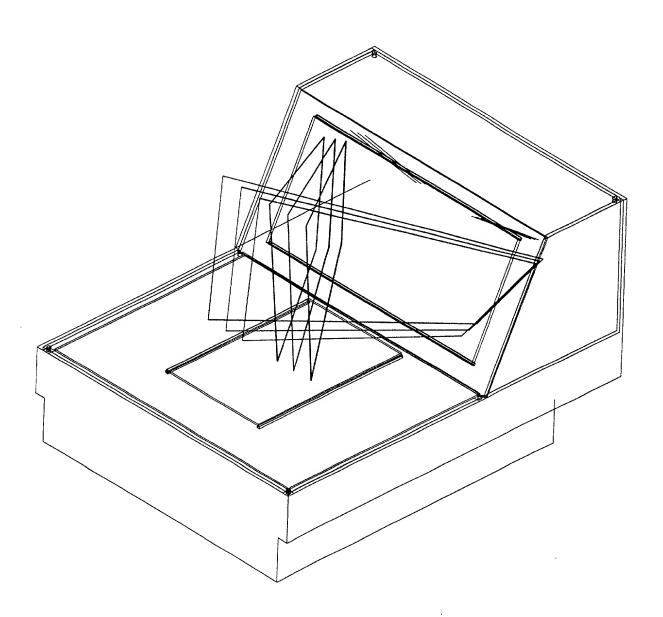


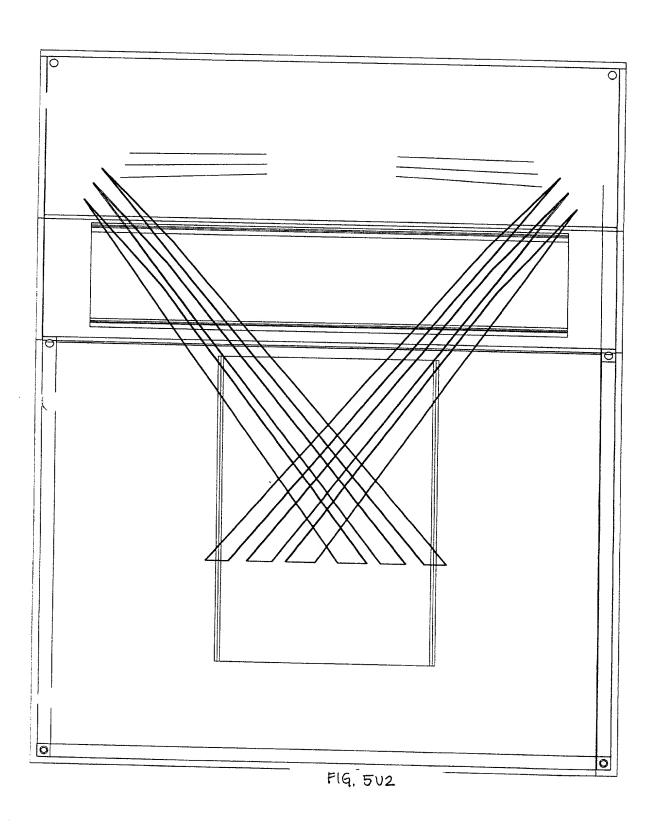
FIG. 5T4



F19, 575



F19, 5 U1



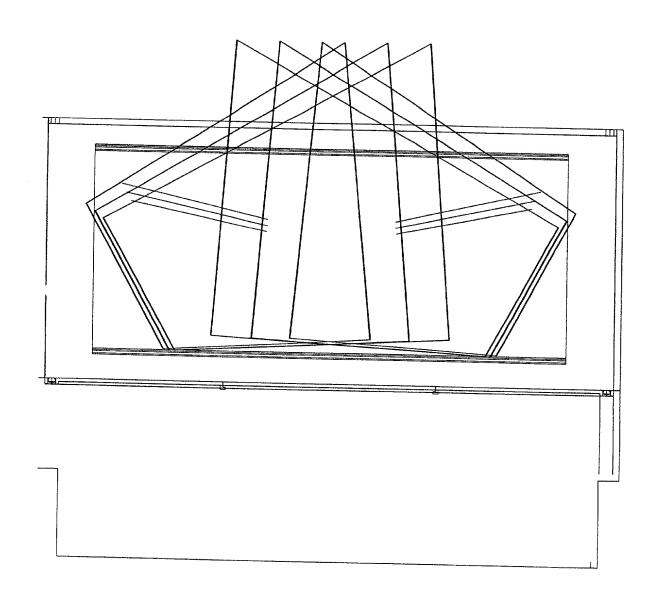
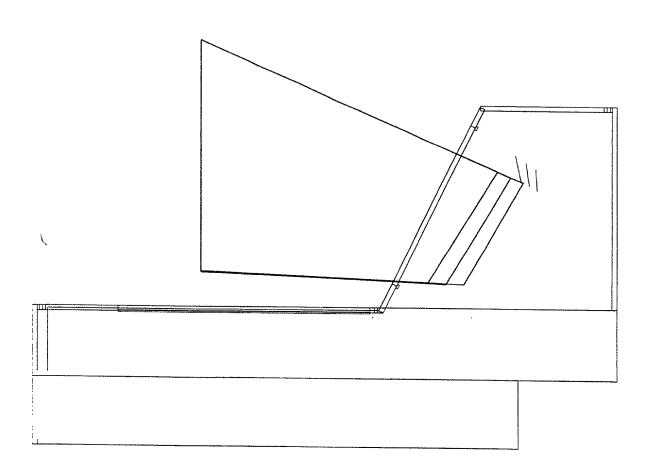
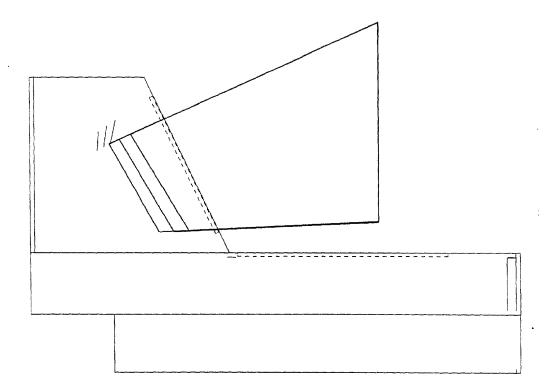


FIG. 5V3



F19. 504



F16.5U5

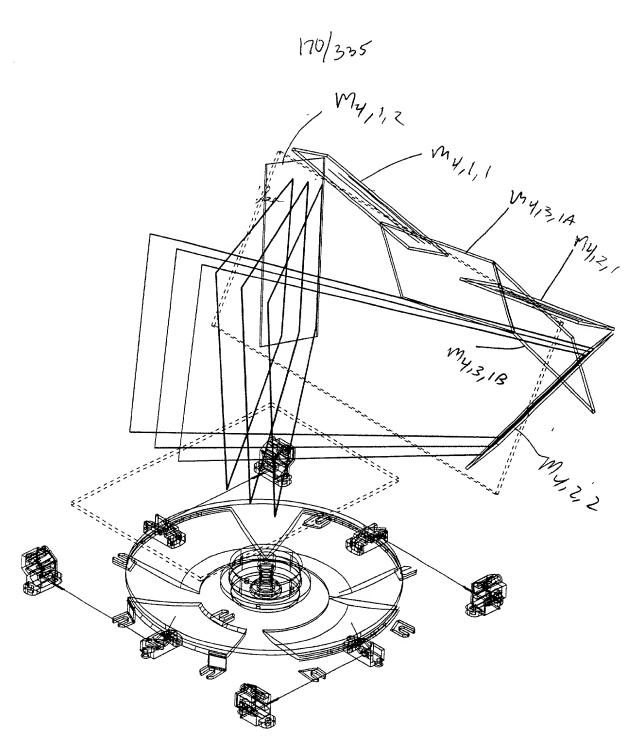
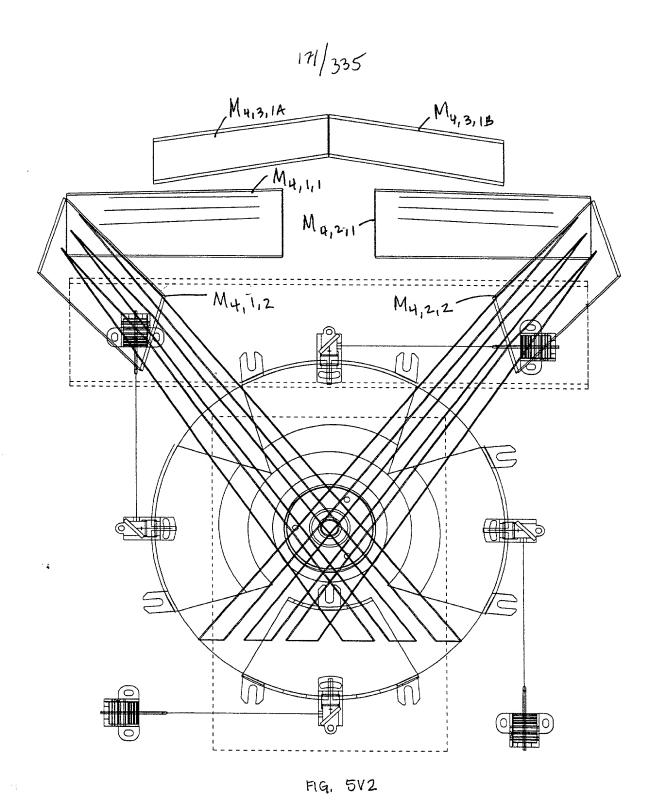
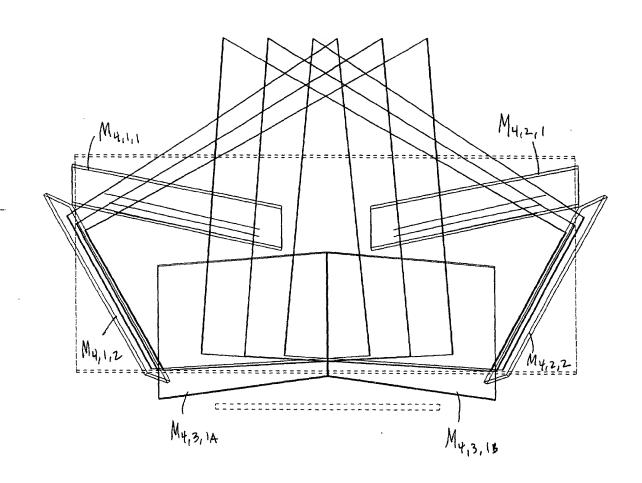
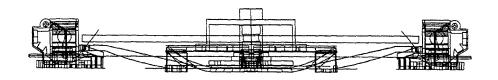


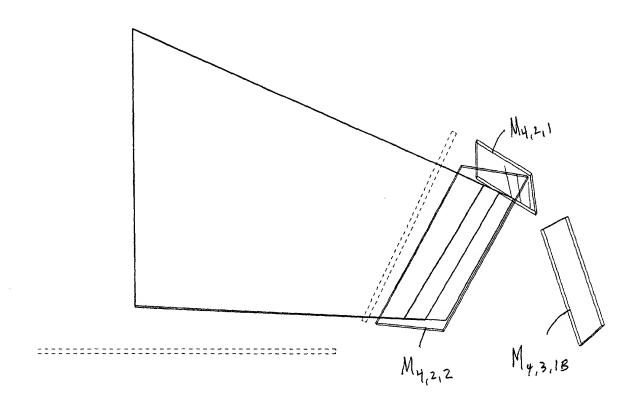
FIG. 5 V1

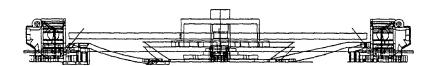




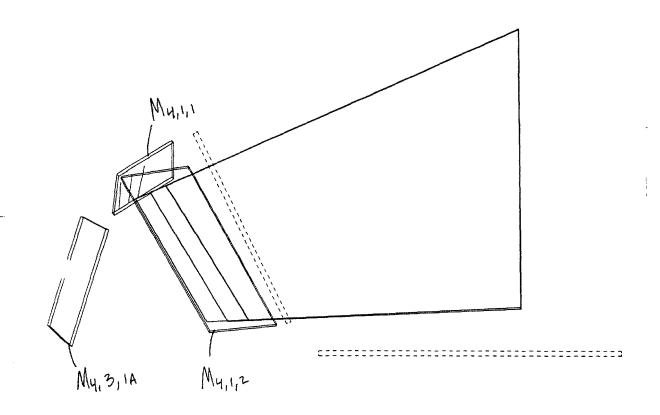


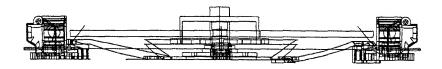
F16, 513





F19. 574





F19. 5V5

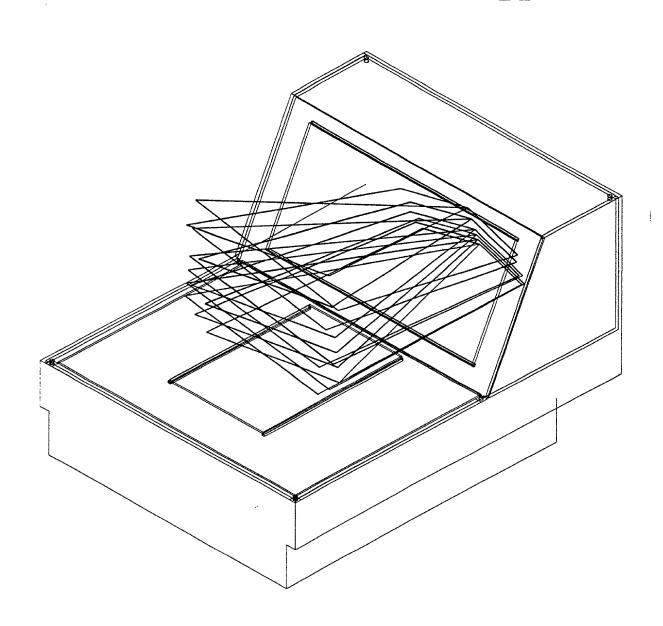
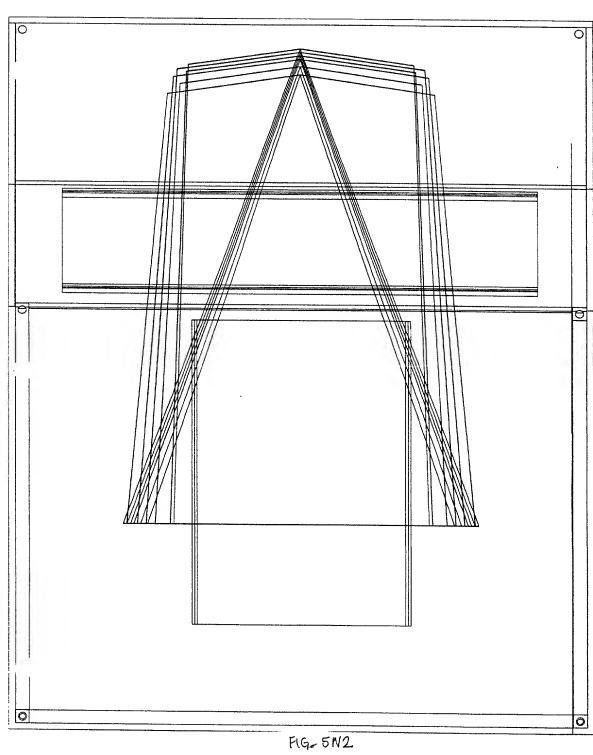
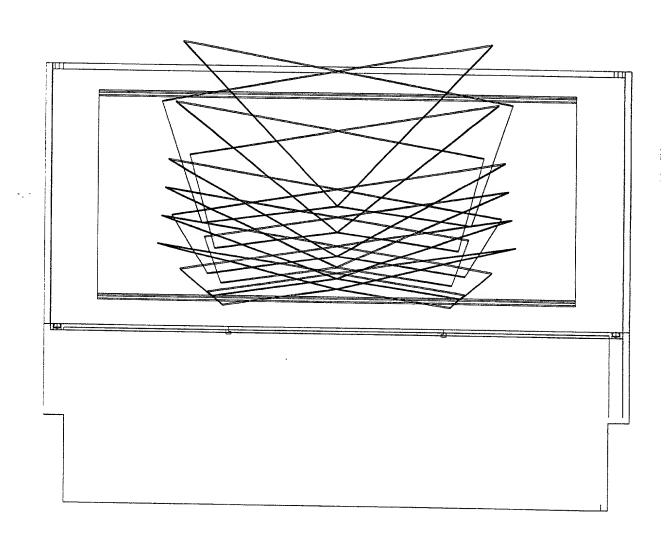


FIG. 5W1

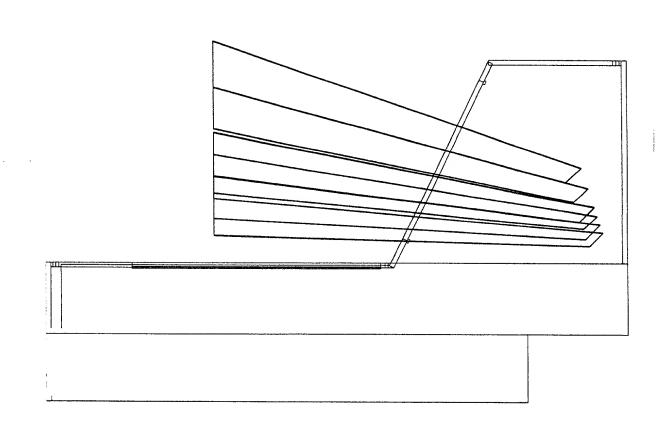
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F19, 5N3





F19, 5W4

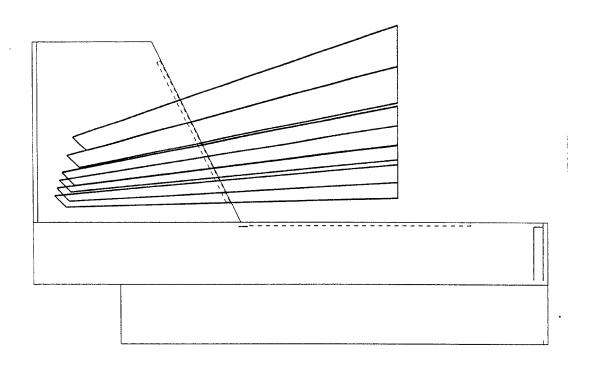


FIG. 5N5

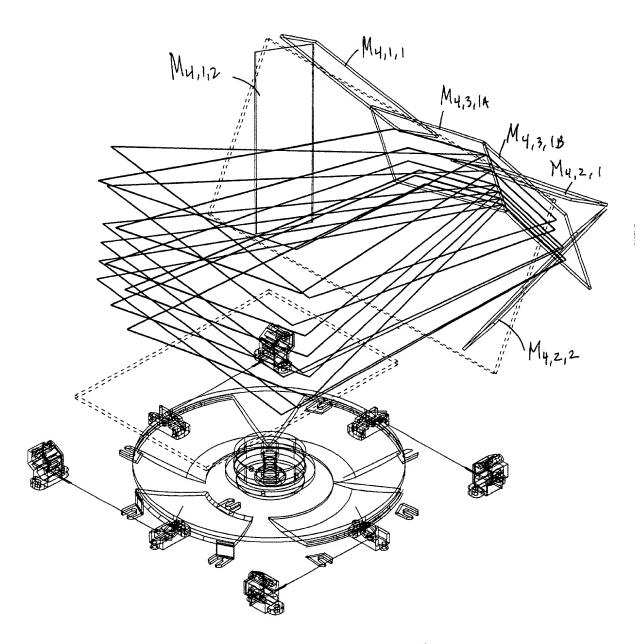


FIG. 5X1

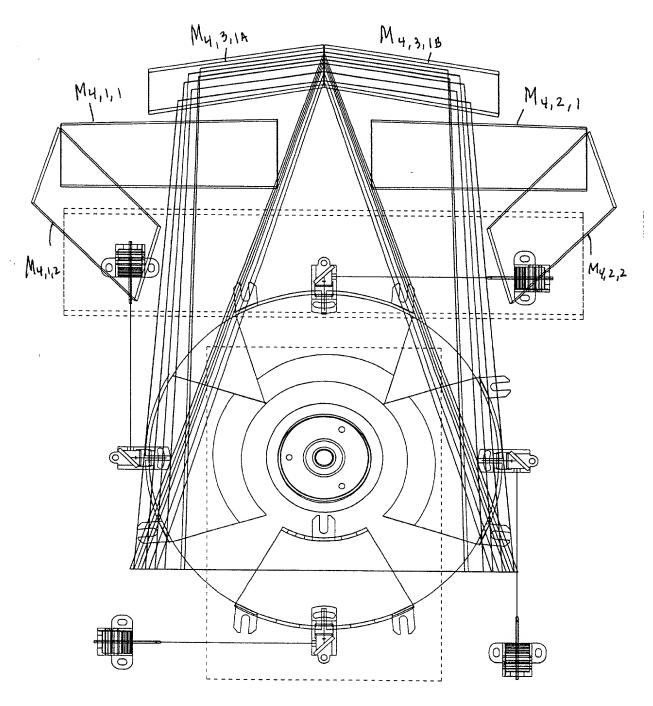
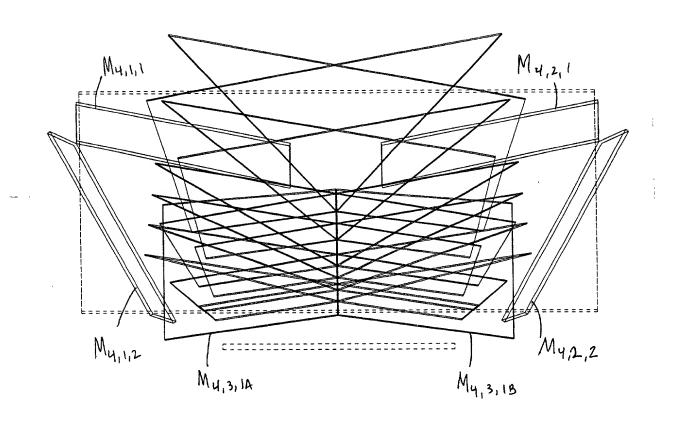
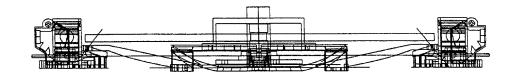


FIG. 5X2





F19. 5X3

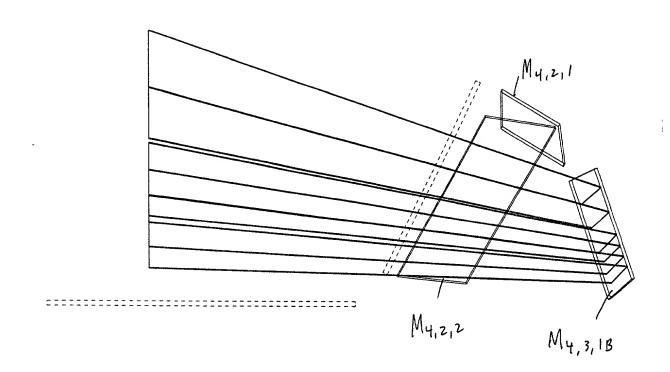
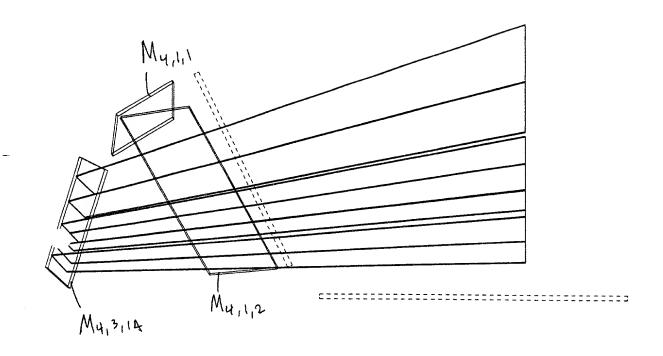




FIG. 5X4



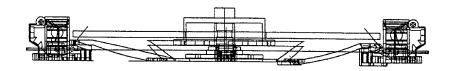
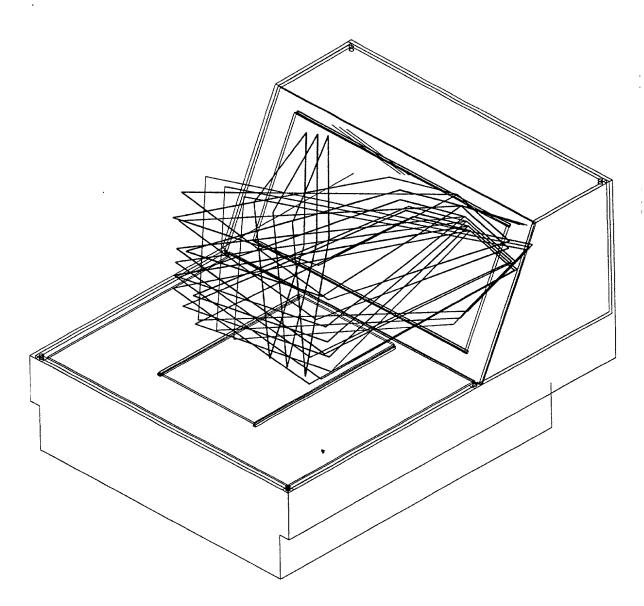
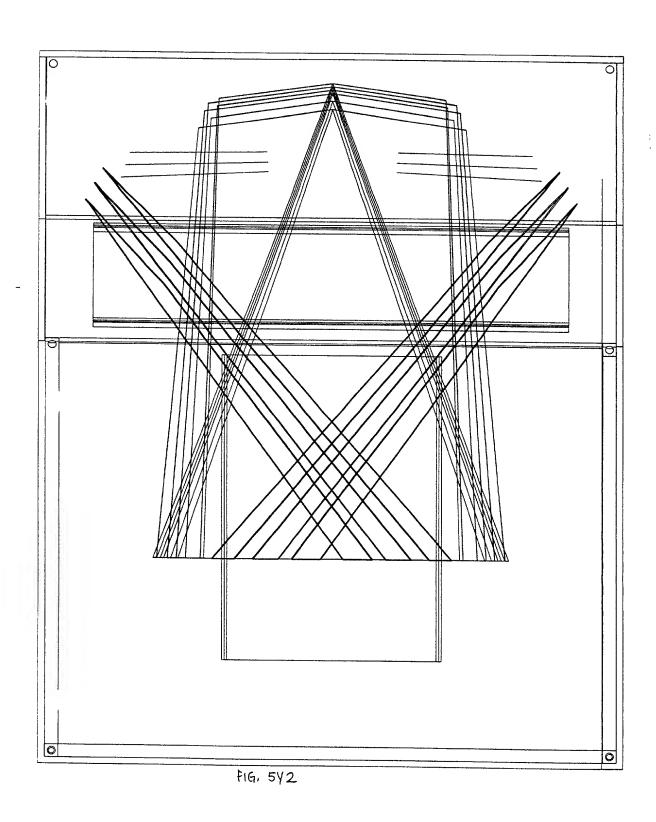


FIG. 5X5



F19, 5 1



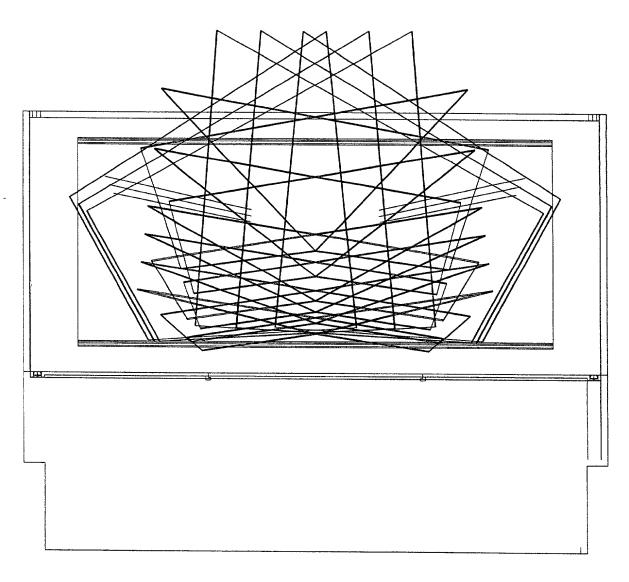


FIG. 5y3

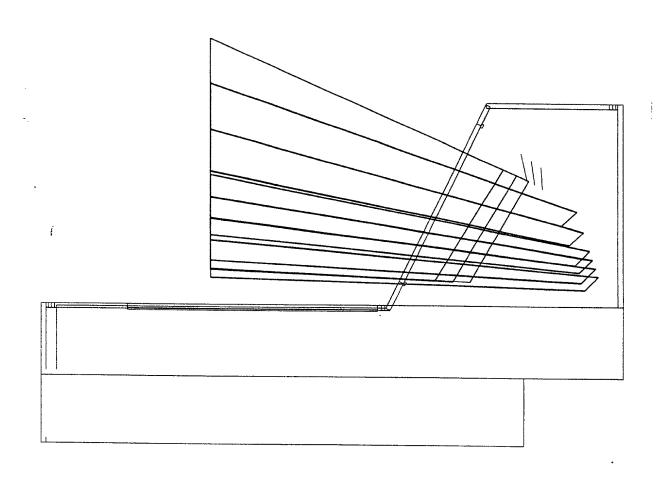
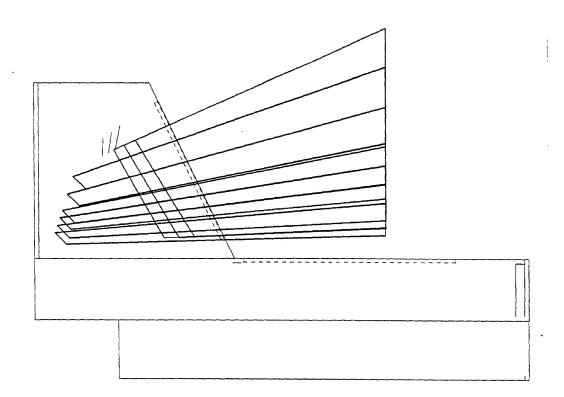
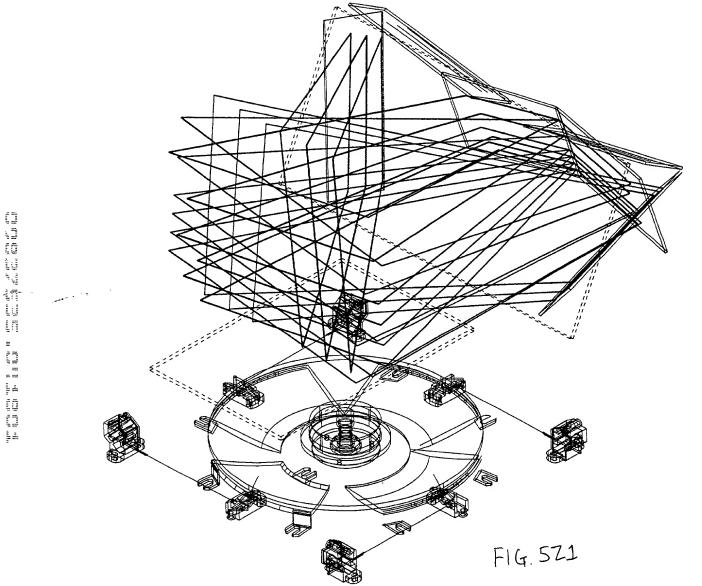
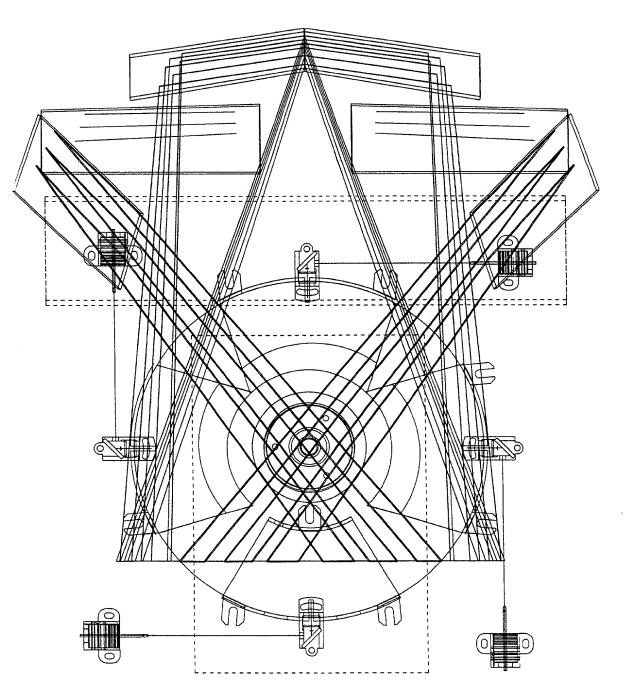


FIG. 544

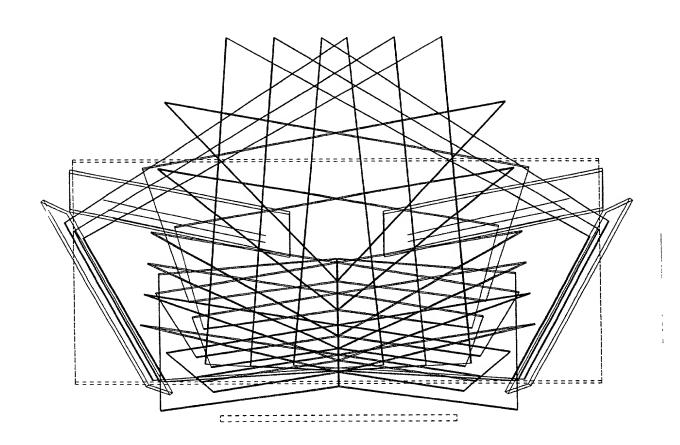


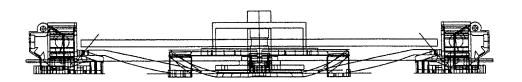
F19. 545



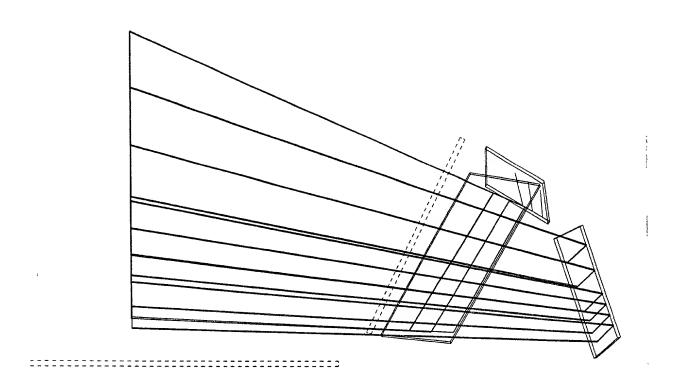


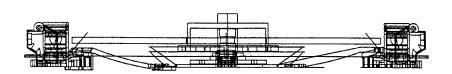
F14.522



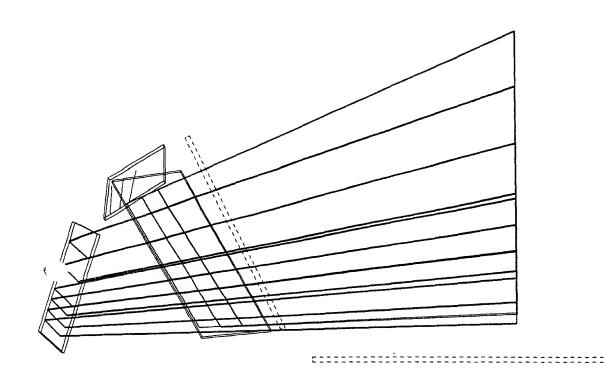


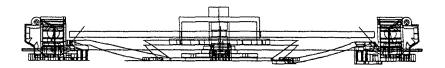
F1G. 523



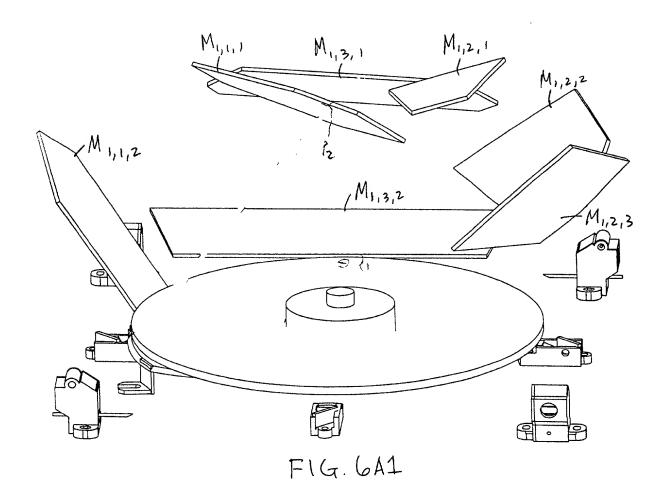


F1G. 524





F14.525



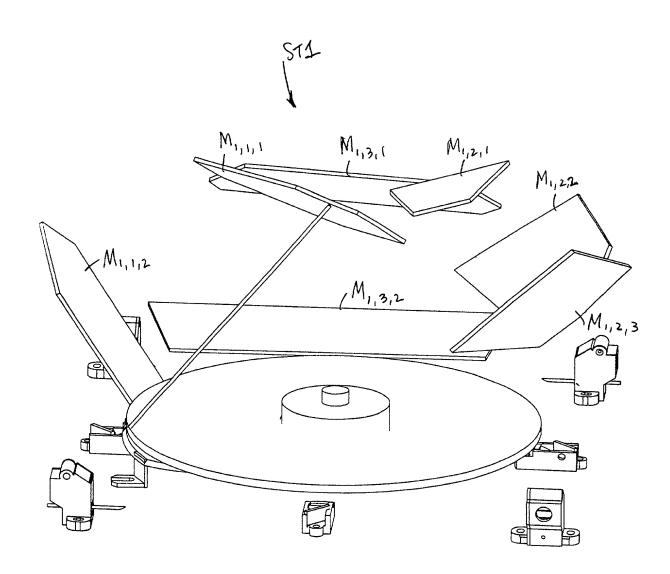
	-	2	က	4	2	9	7	8	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
z				Facet	×	-0.616		×	0.419	-0.253	-0.469			Mir	×	3.900	4.100	3.800	3.150	2.500	2.650			
0				7	>	0.000	End	۸	0.416	0.917	-0.414			Mirror 1 Corners	>	2.436	1.879	0.137	-0.737	-0.159	0.757			
α.					2	0.788		7	0.807	-0.310	0.781			ers	7	2.770	2.400	1.800	1.800	2.450	2.770		-	
o			Г	_				Г			Г	<u> </u>	Г				_				-			H
Œ								×	0.468	-0.316	-0.537			Mirro	×	1.700	3.300	3.400	2.300	1.700	1.050			
တ							Middle	^	0.249	0.832	-0.527			Mirror 2 Corners	>	4.102	4.400	3.990	2.427	2.524	3.101			
-								Z	0.848	-0.455	0.659			Jers	7	1.300	1.980	1.500	-0.625	-0.625	-0.050			-
\supset						Γ					Г											-		T
>								×	0.494	-0.387	-0.603			Mirro	×									
>							End	>	0.048	0.704	-0.626			Mirror 3 Corners	`									Ī
×								7	0.868	-0.596	0.494			ers	7									

F1G.642

	Station 1	2	3	4 High Elevation Left Skew	5 (G2)	6 Vector from Module		8	9 Output Vectors From Disk	10 First Mirror Reflected Directions	Second Mirror R	12 Third Mirror Reflected Directions	13	14	15	16	12	18	19	20	21	22	
A				eft Skew		lule			-rom Disk	ected Directions	11 Second Mirror Reflected Directions	ected Directions					2	3	4	5	9	7	
8				Facet	×	-0.616		×	0.378	-0.269	-0.479			Air	×	3.900	4.100	3.800	3.150	2.500	2.650		
၁				6	`	0.000	End	λ	0.445	ι	-0.367			Mirror 1 Corners	>	2.436	1.879	0.137	-0.737	-0.159	0.757		
O					7	0.788		7	0.812	-0.263	0.797			ers	Z	2.770	2.400	1.800	1.800	2.450	2.770		
Ш		-							-											-		-	
u.								×	0.441	-0.349	-0,566			Mirro	×	1.700	3.300	3.400	2.300	1.700	1.050		
ŋ							Middle	`	0.235	0.823	-0.512			Mirror 2 Corners	ý	4.102	4.400	3.990	2.427	2.524	3.101		
Ŧ								7	0.866	-0.448	0.647			ers	2	1.300	1.980	1.500	-0.625	-0.625	-0.050		
<u> </u>	-			_	_			×	0.464	-0.408	-0.621			Σ	×								
\times							End	Α	14 0.068	8 0.717	1 -0.595			Mirror 3 Comers	λ								_
اد								Z	0.883	-0.565	0.510			ners	2								

F14.6A3

F19.644



F14.6B1

	25	26	27	28	62	စ္က	ਲ	32	8	8	32	98	37	æ	සි	40	41	42	43	4	45
z	Facet	×	-0.616		×	0.468	0.408	-0.999	-0.616					i	4						
0	8	ý	0.000	End	>	-0.249	-0.675	0.012	0.531												
۵		Z	0.788		Z	0.848	-0.614	-0.034	0.582												
Ø											1										
В					×	0.468	0.408	-0.999	-0.616											_	
S				Middle	У	-0.249	-0.675	0.012	0.531												
T					2	0.848	-0.614	-0.034	0.582												
5										_											
>					×	0.430	0.375	-0.993	-0.605												
≯				End	У	-0.387	-0.774	-0.106	0.419												
×					Z	0.816	-0.510	0.054	0.677							,	- 1	,			

The Horse proof of the H.R. H. Area pero and the Health of the Horse has a superior of the Horse horse

F1G.6B2

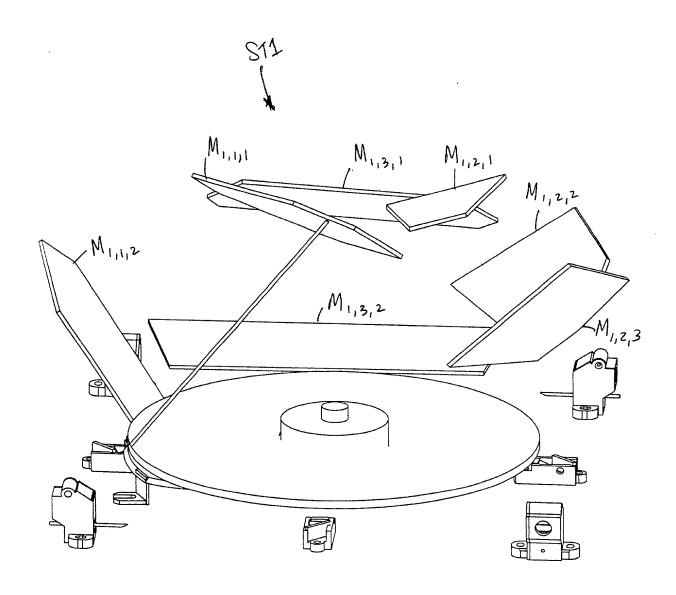
	A	മ	ပ	۵	ш	_	ڻ ا	I	-	7	4	7
123	25 High Elevation Right Skew	Facet	10						+			
26	26 (G1)	×	λ	Z					\dashv	+		
27	27 Vector from Module	-0.616	0.000	0.788					\dashv			
28			End				Middle		_	-	End	
29		×	λ	Z		×	χ	2	-	×	>	7
8	30 Output Vectors From Disk	0.441	0.441 -0.235	0.866	-	0.441	-0.235	998.0		0.398	-0.391	0.830
E .	31 First Mirror Reflected Directions	0.380	-0.673	-0.635		0.380	-0.673	-0.673 -0.635		0.343	-0.784 -0.517	-0.517
8	32 Second Mirror Reflected Directions	-0.998	-0.998 0.000 -0.067	-0.067		-0.998	0.000	-0.067	7	-0.991	-0.133	0.033
ဗ္ဗ	33 Third Mirror Reflected Directions	-0.589	0.589 0.553	0.589		-0.589	0.553	0.589	7	-0.578	0.426	0.697
34									-			
35		Mir	Mirror 1 Corners	ers		Mirro	Mirror 2 Corners	ers	_	Mirro	Mirror 3 Corners	ers
36		×	>	7		×	>	Z		×	>	Z
32		2.550	-1.630	2.650		4.000	-2.630	0.049		3.746	-3.750	1.000
8	2			2.770		4.900	4.900 -1.400	0.775		1.371	-3.300	2.100
၉	3	3.950	0.196	2.060	_	4.600	4.600 -3.150	2.118		1.159	-1.600	0.800
8	4	2.450	-0.309	2.270		3.800	-3.900	1.067		2.824	-2.000	0.100
4	2								+	3.771	-2.700	0.100
42	9								+			
43	2								+		-	
44	8								+			
45									\dashv	1		

F14.683

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_	و
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																					_
₽					7	0.845	-0.530	0.007	0.710		ners	Z	1.000	2.100	0.800	0.100	0.100				
A				End	>	-0.387	-0.788	-0.153	0.439		Mirror 3 Corners	>	-3.750	-3.300	-1.600	-2.000	-2.700				
¥					×	0.369	0.312	-0.988	-0.550		Mirr	×	3.746	1.371	1.159	2.824	3.771				
P P																					\exists
ĄF					Z	0.883	-0.655	-0.099	0.596		ers	Z	0.049	0.775	2.118	1.067					
AE				Middle	λ	-0.220	-0.669	-0.012	0.574		Mirror 2 Corners	y	-2.630	-1.400	-3.150	-3.900					
AD					×	0.415	0.351	-0.995	-0.562		Mirro	×	4.000	4.900	4.600	3.800					
AC																					
AB		Z	0.788		7	0.883	-0.655	-0.099	0.596		ers	Z	2.650	2.770	2.060	2.270					
ΑA	12	λ	0.000	End	>	-0.220	-0.669	-0.012	0.574		Mirror 1 Comers	^	-1.630	-2.267	0.196	-0.309					
Z	Facet	×	-0.616		×	0.415	0.351	-0.995	-0.562		Mirro	×	2.550	4.150	3.950	2.420					
	22	56	27	28	53	99	3	33	33	34	35	98	37	38	99	6	41	42	43	44	45

station



F14.6C1

٦			_			75	87	£	_											_
×					7	0.575	-0.887	0.743			Ders	7								
≥				Еng	У	-0.321	-0.193	-0.165			Mirror 3 Corners	>								
>					×	0.753	-0.421	-0.648			Mirr	×								
5																				
⊢					Z	0.616	-0.896	0.740			ers	7	0.030	0.213	0.277	0.089				
S				Middle	λ	0.000	0.132	0.160			Mirror 2 Corners	у	2.450	2.800	-2.200	-1.850				
ж					×	0.788	-0.425	-0.653			Mirro	×	3.150	4.500	4.350	3.050				
Ø																				
٩		7	0.788		Z	0.575	-0.819	0.672			ers	Z	2.547	2.029	1.851	1.656	1.844	2.405		
0	1	y	0.000	End	>	0.321	0.443	0.468			Mirror 1 Corners	^	1.500	2.000	1.800	-1.800	-1.950	-1.500		
z	Facet	×	-0.616		×	0.753	-0.366	-0.574			Mirro	×	4.250	4.950	5.150	5.000	4.750	4.100		
	46	47	48	64	22	51	25	53	52	55	56	22	28	29	9	61	62	63	64	65

F1G. 6C2

	B	၁	Ω	ш	Ŀ	5	I	-\ -\	X	_
۳	Facet	2								
╁	×	>	Z	_						
↓	-0.616	0.00	0.788						-	
		FINA		-		Middle			E E	
	>	2 2	7		×	>	2	×	>	
t	0 734	0.305	C	\vdash	0.766	0.000	0.643	0.731	1 -0.319	
1	0,70	1	1.		-0.456	0.133	-0.880	-0.453		'
	-0.607				-0.679	0.161	0.716	-0.675	5 -0.162	0.719
				+				-		
				\dagger	Adien	Mirror O Cornere	Jore	Ž	Mirror 3 Corners	ners
	Ž	Mirror 1 Corners	ners	1	N N	2 4	200	,	3	•
	×	>	7		×	χ	Z	×	^	-
	4.250	4 250 1,500	2.547		3.150	2,450	- 1	-	-	
1	1	2,000	2.029		4.500	2.800	- 1			
	1	1	1		4.350	4.350 -2.200				
4		1 '	1.656		3.050	-1.850	0.089			
2	1	4.750 -1.950	1.844						-	
9		4.100 -1.500	2.405					-	-	
7								1		
8										

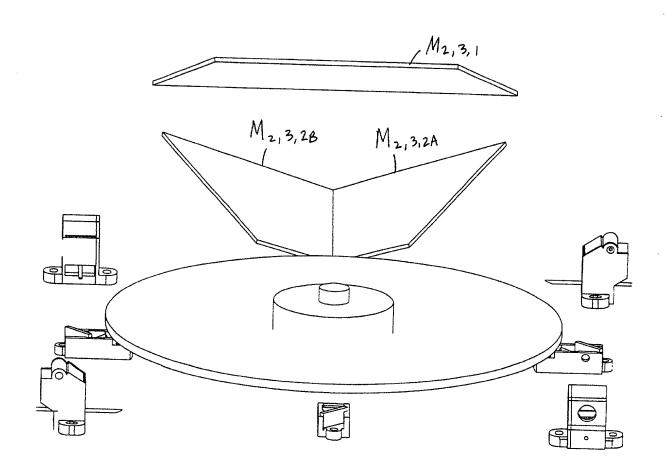
F14.6C3

AB AC /	Z	0.788		Z	0.638 0	-0.797	0.632 -0		Mirror 1 Corners	Z	2.547 3	2.029	1.851	1.656 3	1.844	2.405	
Ş		38													14	35	
AD AE			Middle	×	0.743 0.000	-0.487 0.134	-0.704 0.161		Mirror 2 Corners	×	3.150 2.450	4.500 2.800	4.350 -2.200	3.050 -1.850			
AF A				2	699'0	-0.863	0.692		mers	Z	0:030	0.213	0.277	0.089			
AG AH				×	0.709	-0.485	-0.702		Mirr	×							
Al			End	y	-0.311	-0.181	-0.155		Mirror 3 Corners	^							
P				Z	0.633	-0.855	0.695		ers	Z							

F14.6C4

70	のこと
-	1 7
J -	-1

		-	_			9	<u></u>	0	_										_	
⋛					7	0.660	-0.838	0.670			ers	7								
ΑN				End	У	-0.307	-0.176	-0.151			Mirror 3 Corners	У								
AT					×	0.686	-0.516	-0.727			Mirre	×								
AS																				
AB					Z	0.695	-0.846	0.666			ers	Z	0.030	0.213	0.277	0.089				
AQ				Middle	>	0.000	0.135	0.161			Mirror 2 Corners	>	2.450	2.800	-2.200	-1.850				
AP					×	0.719	-0.517	-0.728			Mirro	×	3.150	4.500	4.350	3.050				
AO																				
AN		Z	0.788		Z	0.667	-0.784	0.611			ers	Z	2.547	2.029	1.851	1.656	1.844	2.405		
AM	4	λ	0.000	End	>	0.275	0.402	0.426			Mirror 1 Corners	^	1.500	2.000	1.800	-1.800	-1.950	-1.500		
AL.	Facet	×	-0.616		×	0.692	-0.472	-0.667			Mirro	×	4.250	4.950	5.150	5.000	4.750	4.100		
	_	47	48	49	20	21	52	23	54	55	26	22	28	23	09	61	62	63	64	92



F14.6D1

P

		.,										_		,			,				- 7		_								_
×					7	0.562	-0.923	0.801			Suers	Z												the abo	į						
≥				End	χ	-0.367	-0.367	0.098			Mirror 3 Corners	^												rror 2 is							
>					×	0.741	-0.117	-0.590			Mirro	×												The second part of mirror 2 is the above							
⋾																								nd p							٦
⊢					Z	0.616	-0.990	0.667			ers	Z	-0.112	0.382	1.066	1.066	0.175							he seco		-0.112	0.382	1.066	1.066	0.175	
S				Middle	>	0.000	0.000	0.448			Mirror 2 Corners	χ	0.000	0.000	-2.256	-2.256	-1.000									0.000	0.000	2.256	2.256	1.000	
В					×	0.788	-0.140	-0.595			Mirro	×	3.000	4.800	5.071	5.071	3.060							r for mirr		3.000	4.800	5.071	5.071	3.060	
O																_								nirro							٦
d		Z	0.788		2	0.616	-0.990	0.667			ers	7	2.509	1.728	1.728	2.509								a split r							
0	1	λ	0.000	End	>	0.00	0.000	0.448			Mirror 1 Corners	>	-1.600	-2.400	2.400	1.600								ion uses							
z	Facet	×	-0.616		×	0.788	-0.140	-0.595			Mirro	×	3.750	5.100	5.100	3.750								This station uses a split mirror for mirror #2.							
	46	47	48	6	က္ဆ	21	25	23	쟋	32	ည္သ	22	28	සු	8	6	82	အ	8	92	99	29	89	69	2	7	72	33	74	75	9/

FIG. 6D2

	2	AA	AB	Ş	₽	H H	¥	2	Ę	2	3
46	Facet	2									
47	×	у	Z								
48	-0.616	0.000	0.788								
49		End				Middle				End	
20	×	ý	Z		×	>	Z		×	^	7
	0.766	0.000	0.643		0.766	0.000	0.643		0.711	-0.395	0.581
S	-0.175	0.000	-0.985		-0.175	0.000	'		-0.149	-0.395	-0.907
53	-0.623	0.440	0.647		-0.623	0.440	0.647		-0.614	0.062	0.787
72											
22											
28	Mirr	Mirror 1 Corners	ers		Mirre	Mirror 2 Corners	ers		Mirr	Mirror 3 Corners	ers
27	×	>	Z		×	χ	- 1		×	λ	7
82	3.750	-1.600	2.509		3.000	0.000	•				
23	5.100	1	1.728		4.800	0.000	0.382				
8	5.100	i	1.728		5.071	-2.256	1.066				
150	3.750	1.600	2.509		5.071	-2.256	1.066				
23					3.060	-1.000	0.175				
အ											
49											
65											
99											
67											
89											
69	This star	tion use	s a split	mirro	This station uses a split mirror for mirror #2.	Į.	he sec	d pu	art of m	The second part of mirror 2 is the abo	the abc
2											
7.1					3.000	0.000	-0.112				
₂ V					4.800	0.000	0.382				
73					5.071	2.256					
74					5.071	2.256					
75					3.060	1.000	0.175				
76											

F1G. 6D3

Ą	В	၁	۵	ш	4	O	Ŧ	寸	7	×	_
	Facet	က						1			
	×	^	Z								
48 Vector from Module	-0.616	0.000	0.788					\dashv			
		End				Middle		1		Eng	
	×	χ	7	7	×	λ	- (×	>	7
51 Output Vectors From Disk	0.743	0000	0.669		0.743	0.000	ţ		0.697	-0.362	0.619
First Mirror Reflected Directions	-0.209	Į .	0.000 -0.978		-0.209	0.000	-0.978		-0.189	-0.362	-0.913
Second Mirror Reflected Directions	-0.649	0.433	0.625		-0.649	0.433	0.625		-0.648	0.089	0.757
Third Mirror Reflected Directions											
								-†			7
	Mirr	Mirror 1 Comers	ers		Mirro	Mirror 2 Corners	Jers	7	Mirr	Mirror 3 Corners	ers
	×	>	Z		×	λ	7		×	>	7
	3.750	-1.600	2.509		3.000	0.000	-0.112	_			
2	5.100	-2.400	1.728		4.800		0.382				
3	5.100	2.400	1.728		5.071	-2.256	1.066	-			
4	3.750	1.600	2.509		5.071	-2.256	1.066	_			
5					3.060	-1.000	0.175				
9								1			
7											
8				-				7			
				1				1			
				-				-			
Special Case!	This star	This station uses a split mirror for mirror #2.	a split	nirror	for mirr		The second part of mirror 2 is the abo	ed bu	irt of mi	ror 2 is 1	he abor
Second Part of Mirror 2				-	3.000	0.000	-0.112				
				-	4.800	0.000	0.382				
					5.071	2.256	1.066				
					5.071	2.256	1.066				
					3.060	1.000	0.175				
								\neg			
								_		_	

FIG. 6DH

46 F 47 48	Facet	4									
-	i ci			1							
	×	У	2								
	-0.616	0.000	0.788								
49		End				Middle				End	
20	×	ý	Z		×	У	7		×	У	7
51	0.719	0.000	0.695		0.719	0.000			0.664	-0.395	0.635
-	-0.243	0.000	-0.970		-0.243	0.000	026'0-		-0.220	-0.395	-0.892
- 23	-0.675	0.425	0.603		-0.675	0.425	0.603		-0.668	0.046	0.742
54											
22											
26	Mirro	Mirror 1 Corners	ers		Mirro	Mirror 2 Corners	ners		Mirro	Mirror 3 Corners	ers
27	×	`	2		×	>	7		×	>	Z
28	3.750	-1.600	2.509		3.000	0000	-0.112				
69	5.100	-2.400	1.728		4.800	0.000	0.382				
<u>_</u>	5.100	2.400	1.728		5.071	-2.256	1.066				
61	3.750	1.600	2.509		5.071	-2.256	1,066				
62					3.060	-1.000	0.175				
63											
64											
92											
99				-							
29											
89											
1 69	his stati	This station uses a split mirror for mirror #2.	a split n	nirror	for mirr	· .	he seco	ā	The second part of mirror 2 is the abor	ror 2 is t	he abor
70				<u> </u>							
7.1					3.000	0.000	-0.112				
72					4.800	0.000	0.382				
73					5.071	2.256	1.066				
74					5.071	2.256	1.066				
23					3.060	1.000	0.175				
76				\dashv							

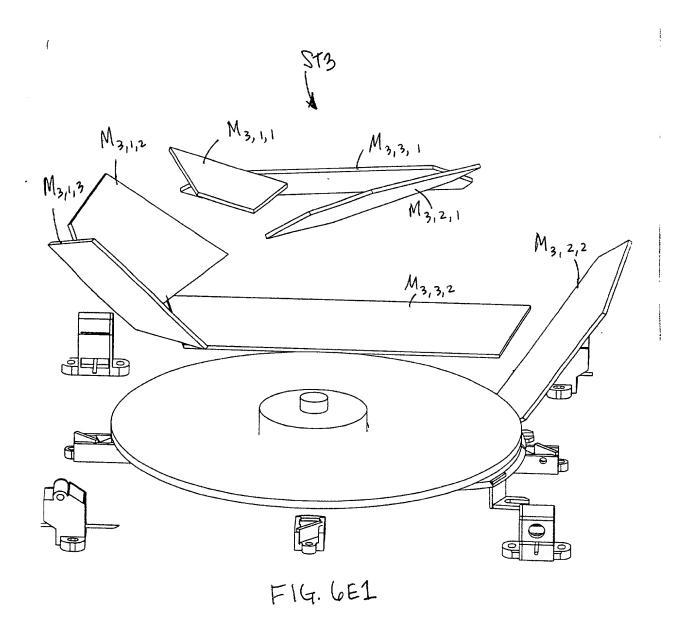
F19.605

	{		į								
46	Facet	2									
47	×	у	Z								
48	-0.616	0.000	0.788								
49		End				Middle				End	
22	×	y	Z		×	χ	Z		×	Λ	7
51	0.669	0.000	0.743		0.669		0.743		0.634	-0.311	0.708
52	-0.310	0.000	-0.951		-0.310		-0.951		-0.298	-0.311	-0.903
53	-0.724	0.407	0.557		-0.724	0.407	0.557		-0.730	0.114	0.673
54											
22											
56	Mirr	Mirror 1 Corners	ers		Mirr	Mirror 2 Corners	ners		Mirr	Mirror 3 Corners	iers
22	×	'n	Z		×	у	2		×	λ	Z
28	3.750	-1.600	2.509		3.000	0.000	-0.112				
29	5.100	-2.400	1.728		4.800						
09	5.100	2.400	1.728		5.071	-2.256	- 1				
61	3.750	1.600	2.509		5.071	-2.256	1.066				
62					3.060	-1.000	1				
63											
64											
65											
99											
29											
89											
69	This stat	This station uses a split mirror for mirror #2.	a split	niro	r for mir		The seco	pu	The second part of mirror 2 is the abor	rror 2 is	the abo
70											
71					3.000	0.000	-0.112				
72					4.800	0.000	0.382				
73					5.071	2.256	1.066				
74					5.071	2.256	1.066				
75					3.060	1.000	0.175				
9/											

F14.606

T	7	_	_	_	7		\neg	7		7	7	7		-		7	_	7	-	-	-		-					_	7	-	7
BX																															
BW																								axis. I.e.:							
ВУ																								about the y							
BU																								The second part of mirror 2 is the above mirrored about the y axis. I.e.:							
ВТ					7			0.600			Jers	Z												the above							
BS				Eug	- 1			0.173			Mirror 3 Corners	λ												rror 2 is							
BR					×	0.596	698'0-	-0.781			Mirr	×												art of mi							
g																								nd p							\Box
ВР						0.788		0.508			ers	2		0.382	1.066	1.066	0.175							he seco		-0.112		1.066	1.066	0.175	
BO				Middle	>	0.000	0.000	0.387			Mirror 2 Corners	χ	0.000		-2.256	-2.256	-1.000									0.000	ļ	2.256	2.256	1.000	
BN					×	0.616	-0.376	-0.770			Mirr	×	3.000	4.800	5.071	5.071	3.060							r for min		3.000	4.800	5.071	5.071	3.060	
BM																								nirro							П
BL		2	0.788		7	0.788	-0.927	0.508			ers	7	2.509	1.728	1.728	2.509								asplitn							
æ	9	У	0.000	End	>	0.000	0.000	0.387			Mirror 1 Corners	>	-1.600	-2.400	2.400	1.600								ion uses							
B	Facet	×	-0.616		×	0.616	-0.376	-0.770			Mirro	×	3.750	5.100	5.100	3.750								This station uses a split mirror for mirror #2.							
		47	48	49	20	51	22	23	54	55	28	22	28	8	8	6	8	ೞ	49	65	99	29	89	8	2	7	72	73	7,	75	9/

F1G. 6D7



	-	- 1	- 1	ı	- 1				16	유	54	1				8	8	8	8	8				
~								Z	0.816	-0.510	0.054	0.677		ers	7	1.000	2.100	0.800	0.100	0.100				
\$							End	У	0.387	0.774	0.106	-0.419		Mirror 3 Corners	у	3.750	3.300	1.600	2.000	2.700				
>								×	0.430	0.375	-0.993	-0.605		Mirre	×	3.746	1.371	1.159	2.824	3.771				
0																								
-								Z	0.848	-0.614	-0.034	0.582		ers	Z	0.049	0.775	2.118	1.067					
S							Middle	×	0.249	0.675	-0.012	-0.531		Mirror 2 Comers	χ	2.630	1.400	3.150	3.900					
r								×	0.468	0.408	-0.999	-0.616		Mirro	×	4.000	4.900	4.600	3.800					
3																								
٦.					7	0.788		Z	0.848	-0.614	-0.034	0.582		ers	Z	2.650	2.770	2.060	2.270					
0				7	λ	0.000	End	λ	0.249	0.675	-0.012	-0.531		Mirror 1 Corners	^	1.630	2.267	-0.196	0.309					
z				Facet	×	-0.616		×	0.468	0.408	-0.999	-0.616		Mirro	×	2.550	4.150	3.950	2.420					
	-	7	3	4	2	9	7	8	6	10	7	12	13	14	15	16	17	18	19	20	21	22	83	24

F14.6E2

Station :

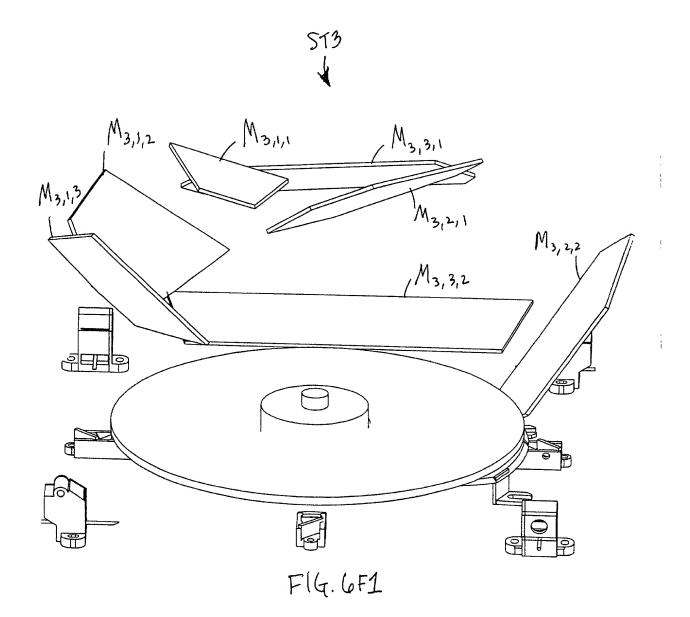
_								7	0.830	-0.517	0.033	0.697		ers	7	1.000		0.800	0.100	0.100			
ᅩ							End	>	0.391	0.784	0.133	-0.426		Mirror 3 Corners	У	3.750	3.300	1.600	2.000	2.700			
7								×	0.398	0.343	-0.991	-0.578		Mirro	×	3.746	1.371	1.159	2.824	3.771			
-											-												
I								7	0.866	-0.635	-0.067	0.589		ers	Z	0.049	0.775	2.118	1.067				
9							Middle	^	0.235	0.673	0.000	-0.553		Mirror 2 Corners	y	2.630	1.400	3.150	3.900				
F								×	0.441	0.380	-0.998	-0.589		Mirre	×	4.000	4.900	4.600	3.800				
Ε																							
D					2	0.788		7	0.866	-0.635	-0.067	0.589		ers	Z	2.650	2.770	2.060	2.270				
၁				6	ý	0.000	End	^	0.235	0.673	0.000	-0.553		Mirror 1 Corners	λ	1.630	2.267	-0.196	0.309				
В				Facet	×	-0.616		×	0.441	0.380	-0.998	-0.589		Mirro	×	2.550	4.150	3.950	2.450				
Y	Station 3			High Elevation Left Skew	(G2)	Vector from Module			Output Vectors From Disk	10 First Mirror Reflected Directions	11 Second Mirror Reflected Directions	Third Mirror Reflected Directions					2	8	4	2	9	7	8
	-	2	3	4	2	9	7	æ	6	0	Ξ	12	13	14	15	16	17	18	19	20	21	22	23
L	Ц.	Ц.,.		Щ.	_	L		Ц.	ــــــــــــــــــــــــــــــــــــــ	ــــــــــــــــــــــــــــــــــــــ		نـــا	Ц			L	L	٠	Ц		<u> </u>		لتتا

F1G. 6E3

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Facet	11						1			
×	y	Z								
-0.616	0.000	0.788								
	End				Middle				End	
×	>	Z		×	>	Z		×	Λ	2
0.415	0.220	0.883		0.415	0.220	0.883		0.369	0.387	0.845
1	0.669	-0.655		0.351	0.669	-0.655		0.312	0.788	-0.530
-0.995	0.012	-0.099		-0.995	0.012	-0.099		-0.988	- 1	0.007
-0.562 -(-0.574	0.596		-0.562	-0.574	0.596		-0.550	-0.439	0.710
Mirror	Mirror 1 Corners	ers		Mirro	Mirror 2 Comers	ers		Mirr	Mirror 3 Corners	ers
×	>	7		×	χ	Z		×	>	Z
20	1.630	2.650		4.000	2.630	0.049		3.746	3.750	1.000
1	2.267	2.770		4.900	1.400	0.775		1.371	3.300	2.100
3.950 -	-0.196	2.060		4.600	3.150	2.118		1,159	1.600	0.800
2.420	0.309	2.270		3.800	3.900	1.067		2.824	2.000	0.100
								3.771	2.700	0.100

FIG. GEH





Station 3

×					2	0.868	-0.596	0.494			ers	Z								
≯				End	y	-0.048	-0.704	0.626			Mirror 3 Corners	λ								
>					×	0.494	-0.387	-0.603			Mirro	×								-
⊃																				
⊢					7	0.848	-0.455	0.659			iers	Z	1.300	1.980	1.500	-0.625	-0.625	-0.050		
S				Middle	ý	-0.249	-0.832	0.527			Mirror 2 Corners	χ	-4.102	-4.400	-3.990	-2.427	-2.524	-3.101		
В					×	0.468	-0.316	-0.537			Mirro	×	1.700	3.300	3.400	2.300	1.700	1.050		
٥																				
Ь		7	0.788		2	0.807	-0.310	0.781			ers	2	2.770	2.400	1.800	1.800	2.450	2.770		
0	8	>	0.000	End	^	-0.416	-0.917	0.414			Mirror 1 Corners	λ	-2.436	-1.879	-0.137	0.737	0.159	-0.757		
z	Facet	×	-0.616		×	0.419	-0.253	-0.469			Mirro	×	3.900	4.100	3.800	3.150	2.500	2.650		
	32	56	27	88	83	္က	31	32	ဗ္ဗ	8	32	ဗ္တ	37	88	၉	4	41	42	43	44

To a first and once of south west to the S R of short state who west to the S R of short state when

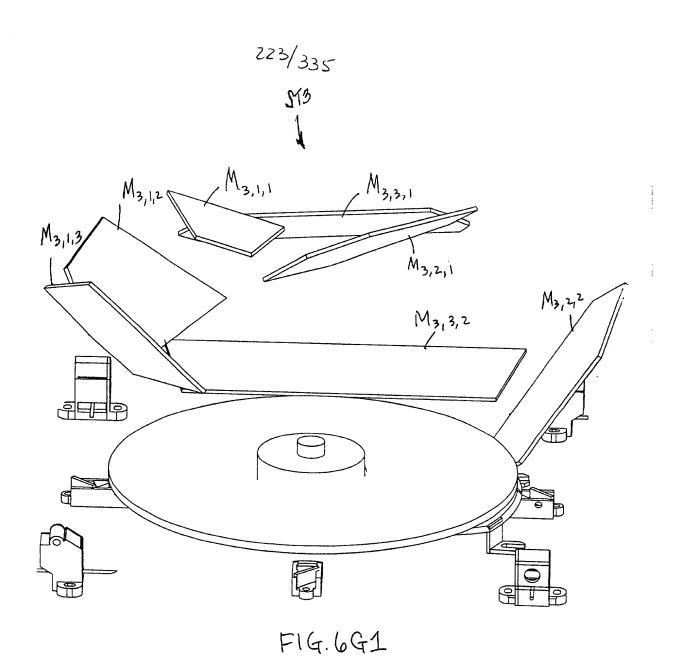
F19. 6F2

	A	В	ပ	۵	ш	<u>"</u>	5	Ŧ	1	7	4	-
25	25 High Elevation Right Skew	Facet	10						1			
8	26 (G1)	×	χ	7					+			
2	27 Vector from Module	-0.616	0.000	0.788								
įĺ۾			End				Middle				E	
3 8		×	>	Z		×	>	Z		×	λ	Z
3 8	30 Output Vectors From Disk	0.378	-0.445	0.812		0.441	-0.235	0.866		0.464	0.464 -0.068	0.88
3 2	31 Eist Mirror Reflected Directions	-0.269	-0.927	-0.263		-0.349	-0.823	-0.448		-0.408	-0.717	-0.56
3 8	32 Second Mirror Beflected Directions	-0.479		0.797		-0.566	0.512	0.647		-0.621	0.595	0.51
၂ဗ	33 Third Mirror Reflected Directions											
8									7			
33		Mirr	Mirror 1 Corners	ners		Mirr	Mirror 2 Corners	ers		Mirro	Mirror 3 Corners	Siers
8		×	>	Z		×	χ	Z		×	χ	7
8 6		1 3.900	3.900 -2.436	2.770		1.700	1.700 -4.102	1.300			i de la companya de l	
8		2 4.100	-1.879	2.400		3.300	3.300 -4.400	1.980				
S		3 3.800	3.800 -0.137	1.800		3.400	3.400 -3.990	1.500				
8		4 3.150	0.737	1.800		2.300		- 1				
4	A STATE OF THE STA	5 2.500	0.159	2.450		1.700	-2.524	-0.625				
54		6 2.650	-0.757	2.770		1.050	1.050 -3.101	-0.050	\top			
43		7							1			
4		8							1			
١												

F14.6F3

L	Z	₹	AB	AC	ΑD	ΑE	AF	g	¥	Ā	₽
22	Facet	12									
8	×	^	7								
27	-0.616	0.000	0.788								
82		End				Middle				Eng	
5	×	>	7		×	^	Z		×	>	7
8	0.333	-0.476	0.814		0.415	-0.220	0.883		0.433	-0.086	0.897
6	-0.284	1	-0.211		-0.382	-0.813	-0.440		-0.429	-0.728	-0.535
8	-0.487	1	0.814		-0.594	0.496	0.633		-0.638	0.564	0.524
ဗ္ဗ											
었										7	
35	Mirr	Mirror 1 Corners	ners		Mirr	Mirror 2 Corners	ers		Mirr	Mirror 3 Corners	Sers
ဗ္ဂ	×	>	7		×	y	Z		×	Λ	7
37	3.900	-2.436	2.770		1.700	-4.102	1.300				
89	4.100	-1.879	_		3.300	-4.400	1.980				
ရွ	3.800	-0.137	1.800		3.400	-3.990	1.500				
8	3.150	0.737	1.800		2.300	1 1	- 1				
4	2.500	0.159	2.450		1.700	-2.524	-0.625				
42	2.650	-0.757	2.770		1.050	-3.101	-0.050				
\$											
44											
45								٦			

F19.6F4



R S T U V W X				Middle	>	0.788 0.000 0.616 0.753 0.321 0.575	0 130	0.10	3			Mirror 2 Comers Mirror 3 Corners	z v x z v x	0 7 7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26.430	4.500 -2.800 0.213	4.350 2.200 0.277	3.050 1.850 0.089				
c					-	+		+						+								_
۵	1	Z	0.788		7	0.575	2 6	-0.018	0.672			ers	,	7,5	7.54	2.029	1.851		1.844	2.405		
c) -	>	0.000	End	>	7 6	120.0	-0.443	-0.468			Mirror 1 Corners	;	7	-1.500	-2.000	900		1.950	1.500		
Z	Facet	×	-0.616		,	× (-0.366	-0.574			Mirro	,	×	4.250	4 950	5 150		4.750	4.100		
 	46 F		┿	+-	2 5	2	5	25	23	54	55	3	3 [તે	28	20	8	3 6	8	83	8	

the Hell and the transfer of the cold conditions to the the state that the colds and the colds and the colds and the colds and the colds and the colds and the colds and the colds and the colds and the colds and the colds are conditions and the colds are colds and the colds are colds and the colds are colds and the colds are colds and the colds are colds and the colds are colds and the colds are colds are colds and the colds are cold

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	A	В	ပ	۵	ш	_	5	-	1	1	1
		Facet	~								
46	46 Low Elevation	ו מניפו	Т	,	1			-			
47	47 (G3)	×		- i	\dagger	+					
άĄ	48 Vector from Module	-0.616		0.788	+					Fud	
2 9			End				Middle			2	•
3		×	>	Z		×	>	Z	×	- 1	7
잉	Control Control	0 734	-0.305	0.607	_	0.766	0.000	0.643	0.731	- 1	0.604
2	Output Vectors From Disc.	000	0.429	1		-0.456	-0.133 -0.880	-0.880	-0.453	- 1	
22	52 First Mirror Herlected Directions	0.00				6/9.0-	-0.161	0.716	-0.675	0.162	0.719
53	53 Second Mirror Reflected Directions	-0.00	5	- 1	1						
3	54 Third Mirror Reflected Directions				\dagger	1		-			
u					-						0.00
8		Adire	Mirror 1 Comers	Pers	_	Mirro	Mirror 2 Corners	ers	Milit	Mirror a Corners	CIO
26		IAIR	5	2 '	T	>	>	7	×	>	7
57		×	>	- 1	1	< 1	7	000			
		4.250	4.250 -1.500	2.547		3.150	3.150 -2.450	0.030			
S		0 4 950	4 950 -2 000	2.029		4.500	4.500 -2.800	0.213			
20		1	200		T	1 350	0000	0.277			
8		3 5.150	• 1	1		200		ı			
6	7	4 5.000		- 1		0000	- 1				
8		5 4.750	1.950	- 1							
1 8		6 4.100	1,500	2.405							
3											
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92		20									
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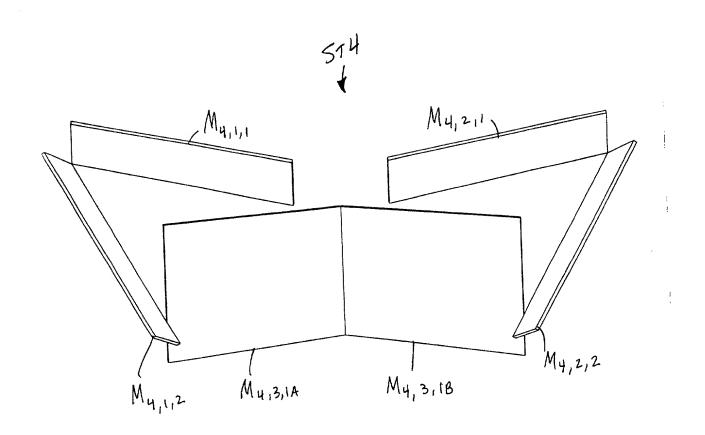
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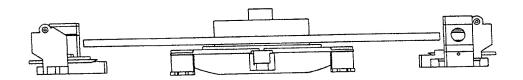
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•	7	AA	9	2	2	2	†				
Facet	ĕ	3									
	×	^	Z					1			
۲	-0.616	0.000	0.788								
		Fnd				Middle				2	
1	[;	2 3	,		×	>	7		×	λ	7
	× 17	7	0.630		0.743	10	0.669		0.709	0.311	0.633
	4 0.0	- 1	1		787	1.	1 .		-0.485	0.181	-0.855
•	0.438	-0.415	٠,		101.0		1		0 700	0 155	0 695
١.	-0.638	-0.440	0.632		-0.704	-0.161	0.032		-0.102	3	20.0
1											
										0	
l.,	Mirr	Mirror 1 Corners	ners		Mirr	Mirror 2 Corners	Siers		Mir	Mirror 3 Comers	Jers
	,	>	2	L	×	>	Z		×	>	Z
	4 250	-1500	10	L	3.150	-2.450	0.030				
	4 950		1		4.500	-2.800	0.213				
	5 150	-1.800	l		4.350	2.200					
	5.000		1.656		3.050	1.850	0.089				
<u> </u>	4.750	1.950	1.844	_							
	4.100	1.500	2.405								
_											
٠											

L	AL	AM	AN	AO	AP	ΑQ	AR	PS	¥	₹	₹
4	Facet	4						1			
47	×	^	2								
8	-0.616	0.000	0.788					7			
64		End				Middle				2	
S.	*	>	7		×	>	7		×	>	- 1
2 2	0.692	-0.275	0		0.719	0.000	0.695		0.686	. 1	- 1
25	-0.472	-0.402	-0.784		-0.517	-0.135	-0.846		-0.516	1	٠,
23	₩.		0.611		-0.728	-0.161	0.666		-0.727	0.151	0.670
5											
55											
28		Mirror 1 Corners	ners		Mirr	Mirror 2 Corners	ers		Mirro	Mirror 3 Corners	Jers
22		>	7		×	Υ	Z		×	χ	7
28	4	-1.500	2.547		3.150	-2.450	0.030				
2	↓_	-2.000	2.029		4.500	-2.800	0.213				
8	5,150	-1.800	1.851		4.350	- 1	0.277				
9	5.000	1.800	1.656		3.050	1.850	0.089				
8	4.750	1.950	1.844								
63	4.100	1.500	2.405								
8											
92											

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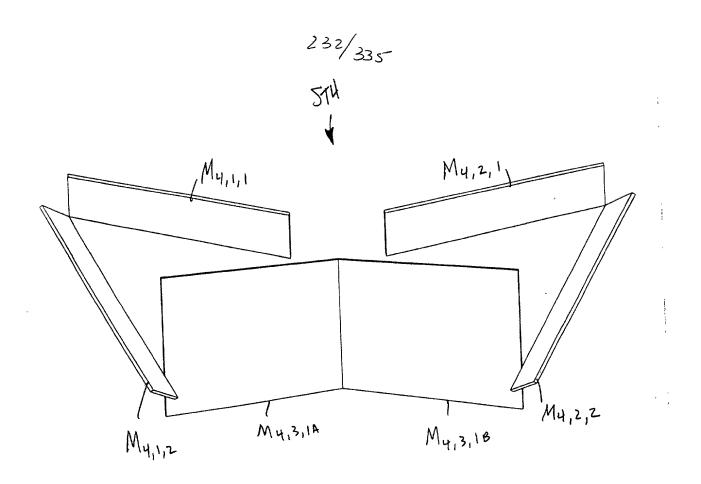
		N	က	4	ည	ဖ	_	8	6	2	Ε	12	13	4	15	9	1	18	62	ನ	2	22	23
z				Facet	×	-0.616		×	0.399	-0.433	-0.737			L	×	4.900	6.100	6.000	4.900				
0				7	У	0.000	End	>	0.468	0.736	-0.585			Mirror 1 Corners	>	0.800	0.800	4.500	4.500				
Ч					Z	0.788		7	0.789	-0.519	0.339			ers	7	6.409	5.645	6.468	7.168				
O																							
Œ								×	0.468	-0.495	-0.768			Mirro	×	2.850	4.200	5.950	4.600				
S							Middle	У	0.249	0.559	-0.631			Mirror 2 Corners	λ	3.200	2.800	4.500	4.950				
-								Z	0.848	-0.665	0.108			ers	Z	3.370	3.231	6.464	6.680				
5	7		1							_		1									7		
>							i i	×	0.481	-0.511	-0.771			Mirr	×								
3							End	>	0.180	0.500	-0.636			Mirror 3 Corners	λ								
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FIG. GHY



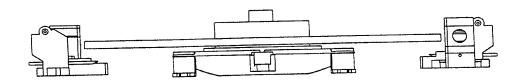


FIG. 611

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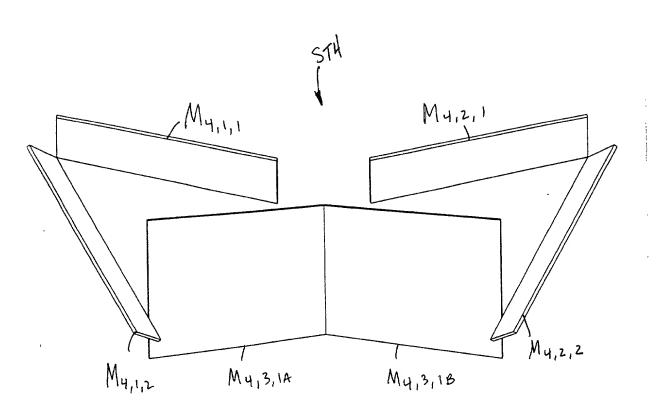
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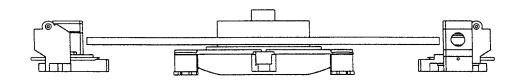
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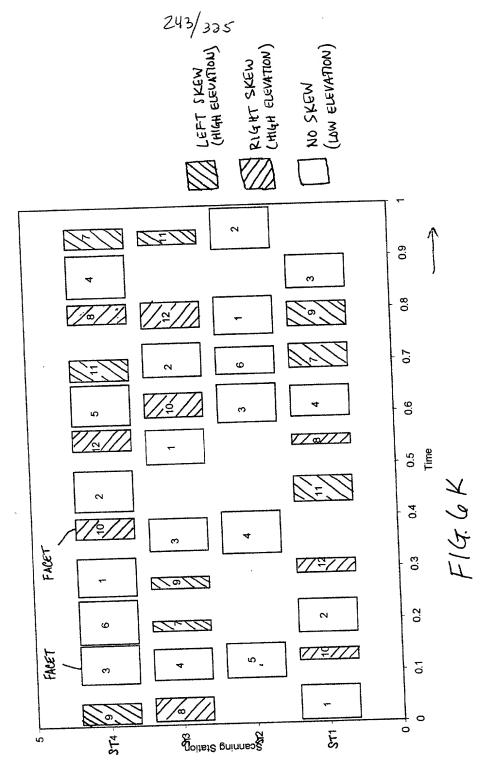
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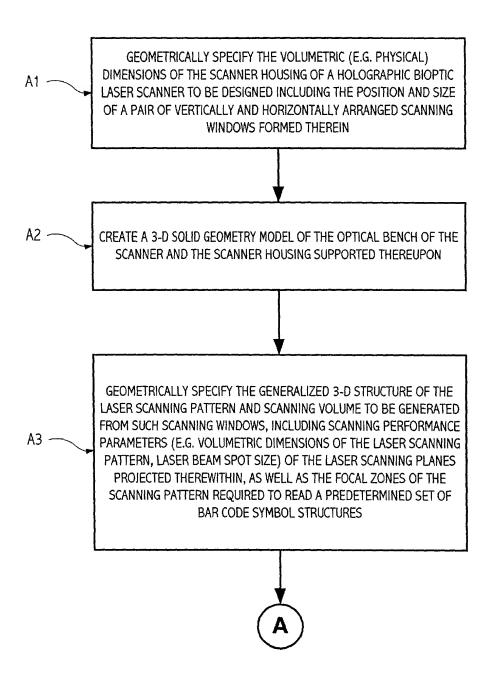


FIG. 7A

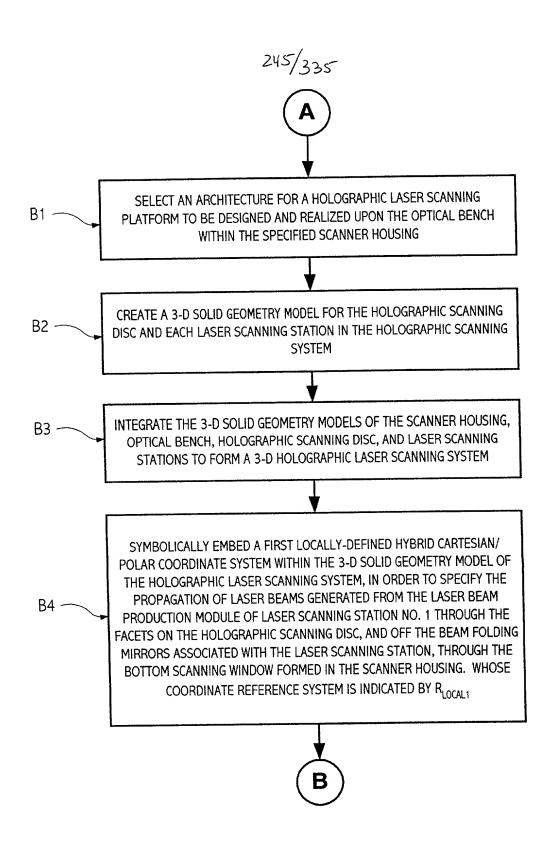


FIG. 7B



SYMBOLICALLY EMBED A SECOND LOCALLY-DEFINED HYBRID CARTESIAN/
POLAR COORDINATE SYSTEM WITHIN THE 3-D SOLID GEOMETRY MODEL OF
THE HOLOGRAPHIC LASER SCANNING SYSTEM, IN ORDER TO SPECIFY THE
PROPAGATION OF LASER BEAMS GENERATED FROM THE LASER BEAM
PRODUCTION MODULE OF LASER SCANNING STATION NO. 2 THROUGH THE
FACETS ON THE HOLOGRAPHIC SCANNING DISC, AND OFF THE BEAM FOLDING
MIRRORS ASSOCIATED WITH THE LASER SCANNING STATION, THROUGH THE
BOTTOM SCANNING WINDOW FORMED IN THE SCANNER HOUSING. WHOSE
COORDINATE REFERENCE SYSTEM IS INDICATED BY R_{LOCAL2}

SYMBOLICALLY EMBED A THIRD LOCALLY-DEFINED HYBRID CARTESIAN/POLAR COORDINATE SYSTEM WITHIN THE 3-D SOLID GEOMETRY MODEL OF THE HOLOGRAPHIC LASER SCANNING SYSTEM, IN ORDER TO SPECIFY THE PROPAGATION OF LASER BEAMS GENERATED FROM THE LASER BEAM PRODUCTION MODULE OF LASER SCANNING STATION NO. 3 THROUGH THE FACETS ON THE HOLOGRAPHIC SCANNING DISC, AND OFF THE BEAM FOLDING MIRRORS ASSOCIATED WITH THE LASER SCANNING STATION, THROUGH THE SIDE SCANNING WINDOW FORMED IN THE SCANNER HOUSING. WHOSE COORDINATE REFERENCE SYSTEM IS INDICATED BY RICCALS

SYMBOLICALLY EMBED A FOURTH LOCALLY-DEFINED HYBRID CARTESIAN/
POLAR COORDINATE SYSTEM WITHIN THE 3-D SOLID GEOMETRY MODEL OF
THE HOLOGRAPHIC LASER SCANNING SYSTEM, IN ORDER TO SPECIFY THE
PROPAGATION OF LASER BEAMS GENERATED FROM THE LASER BEAM
PRODUCTION MODULE OF LASER SCANNING STATION NO. 4 THROUGH THE
FACETS ON THE HOLOGRAPHIC SCANNING DISC, AND OFF THE BEAM FOLDING
MIRRORS ASSOCIATED WITH THE LASER SCANNING STATION, THROUGH THE
SIDE SCANNING WINDOW FORMED IN THE SCANNER HOUSING. WHOSE
COORDINATE REFERENCE SYSTEM IS INDICATED BY R_{LOCAL4}

 $\left(\begin{array}{c} \mathbf{c} \end{array} \right)$

FIG. 7C

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B5 -

B6 -

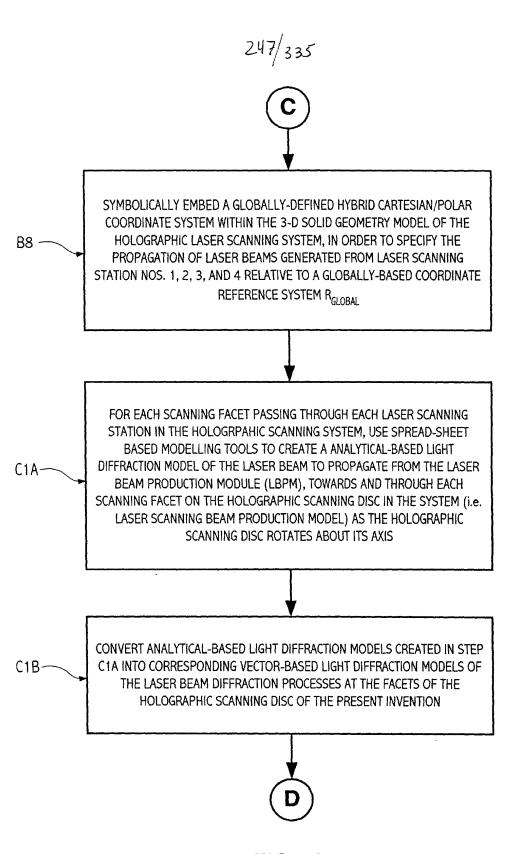


FIG. 7D

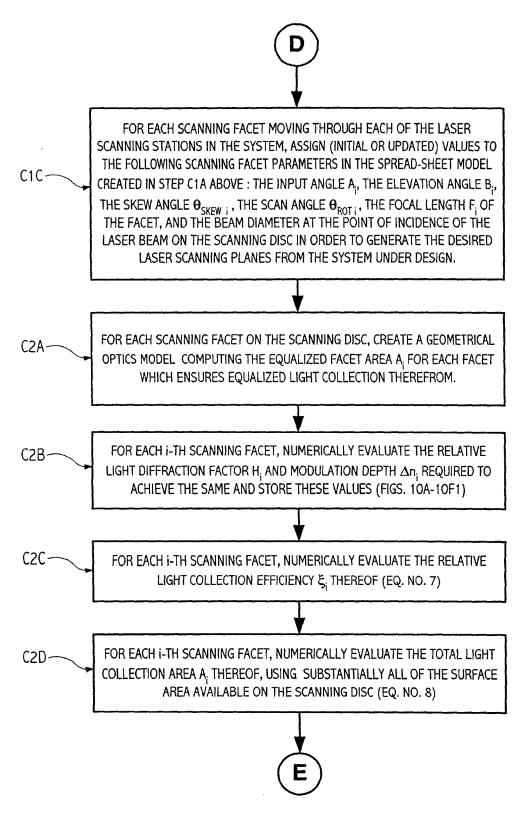


FIG. 7E

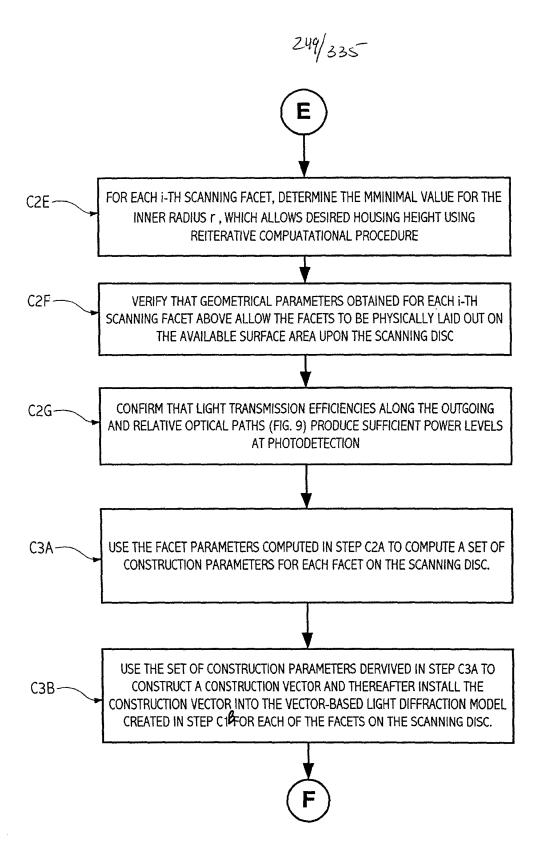


FIG. 7F

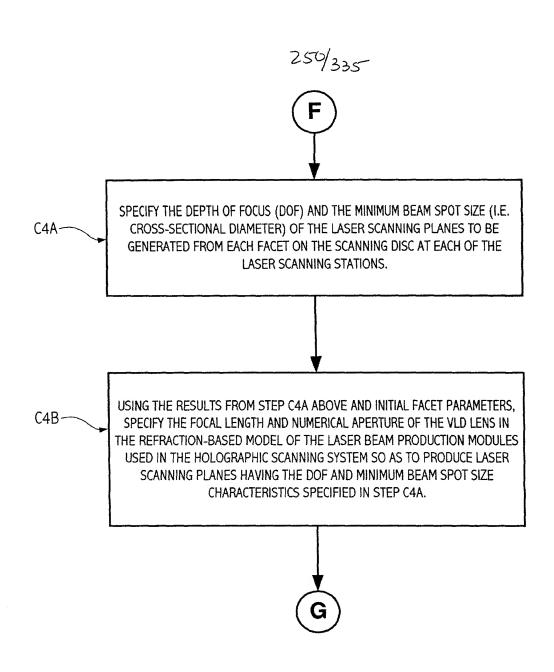


FIG. 7G

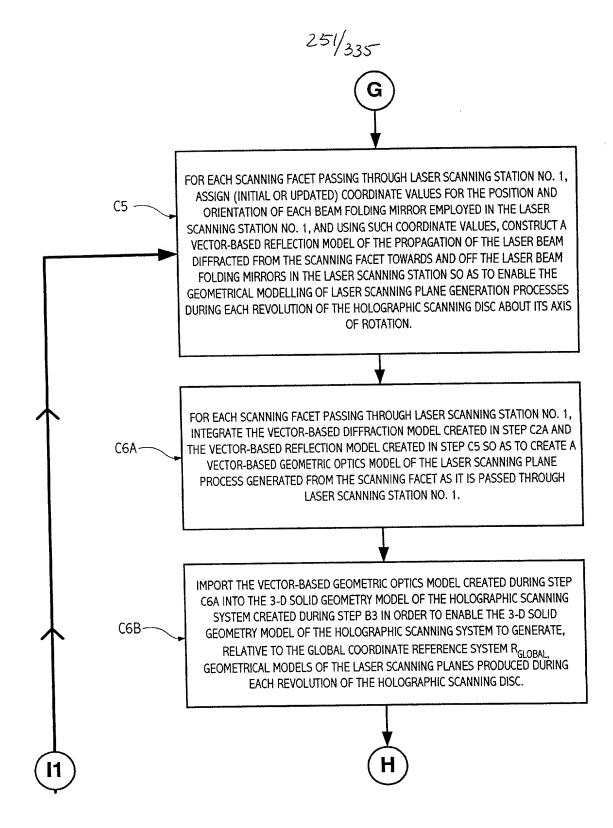


FIG. 7H

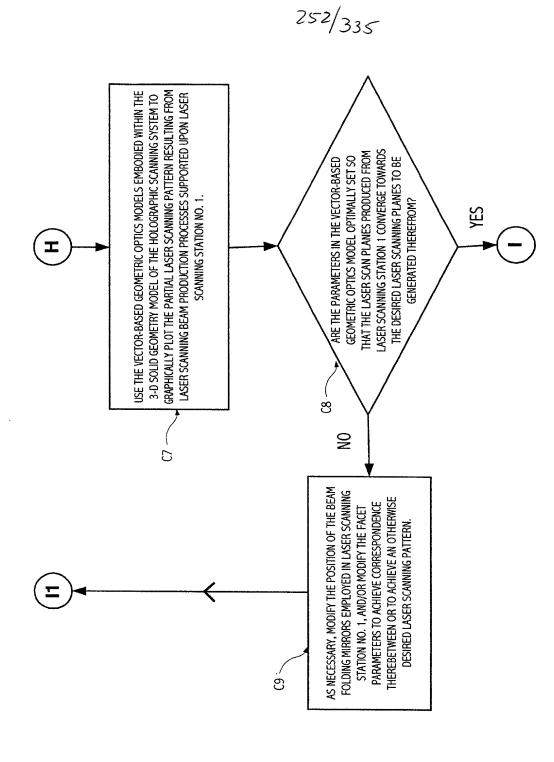


FIG. 71

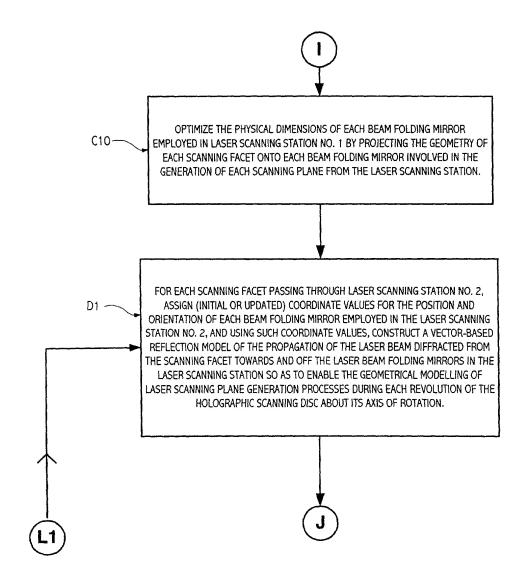


FIG. 7J

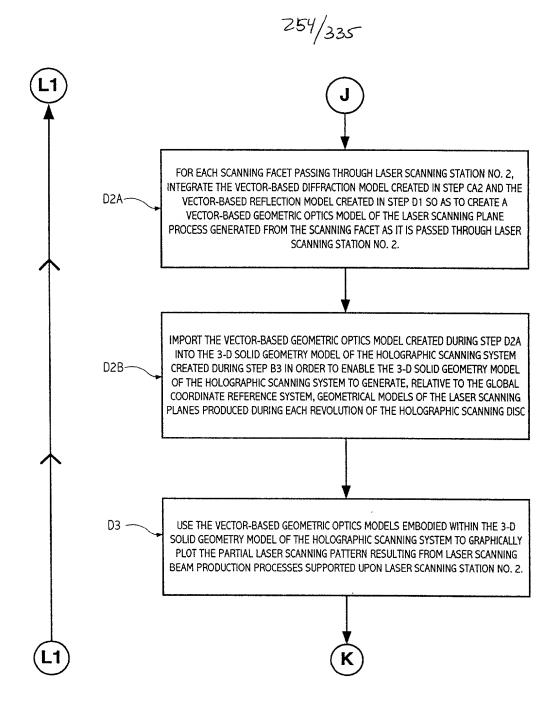


FIG. 7K

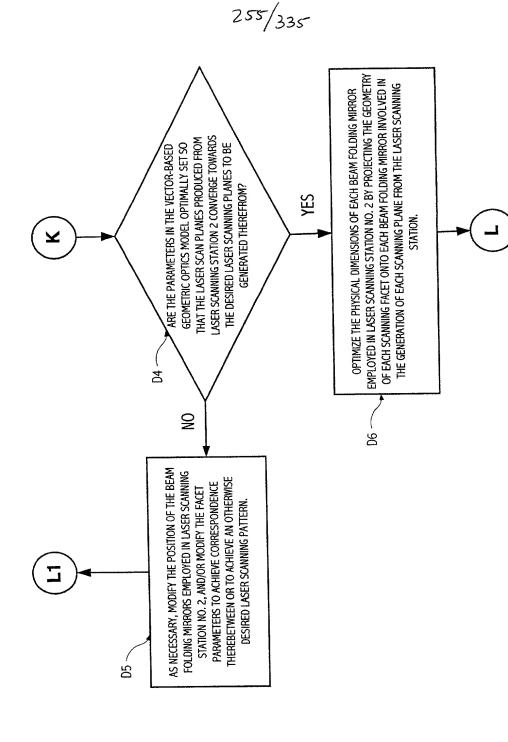


FIG. 7L

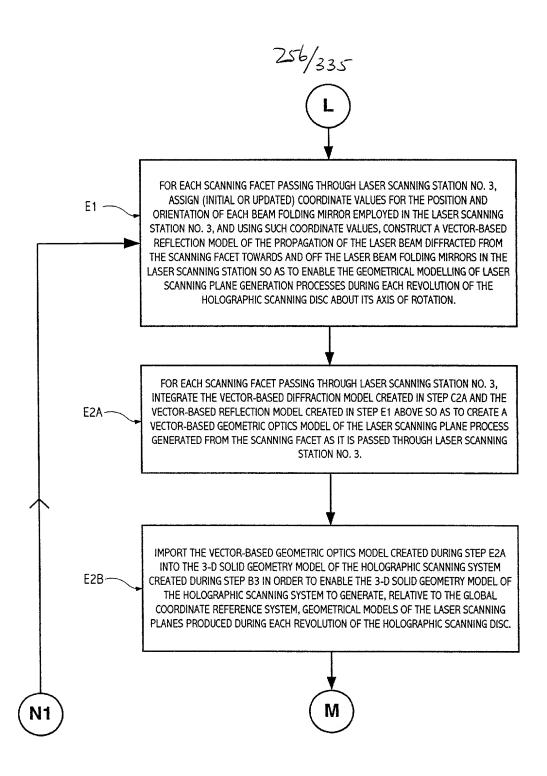
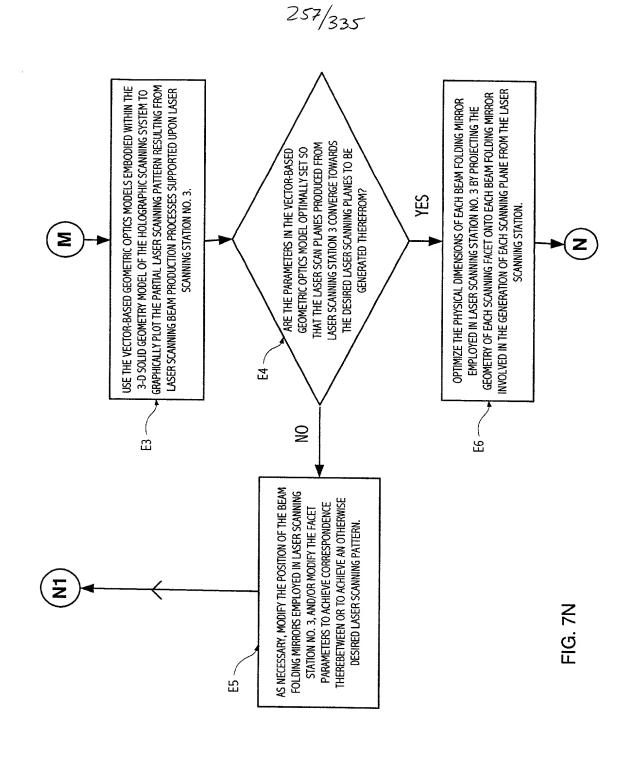
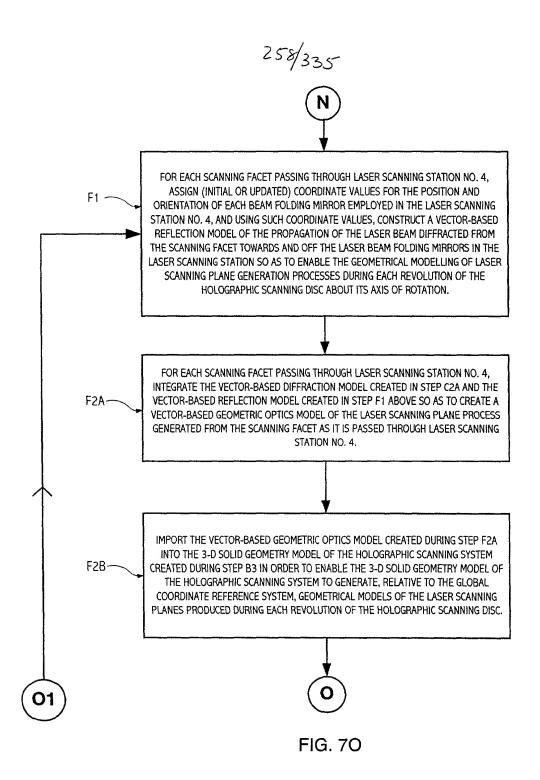
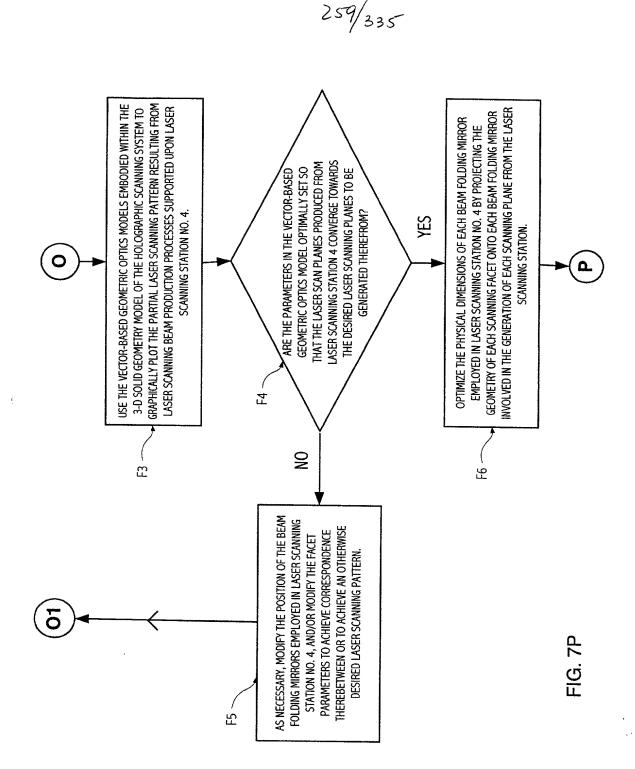


FIG. 7M







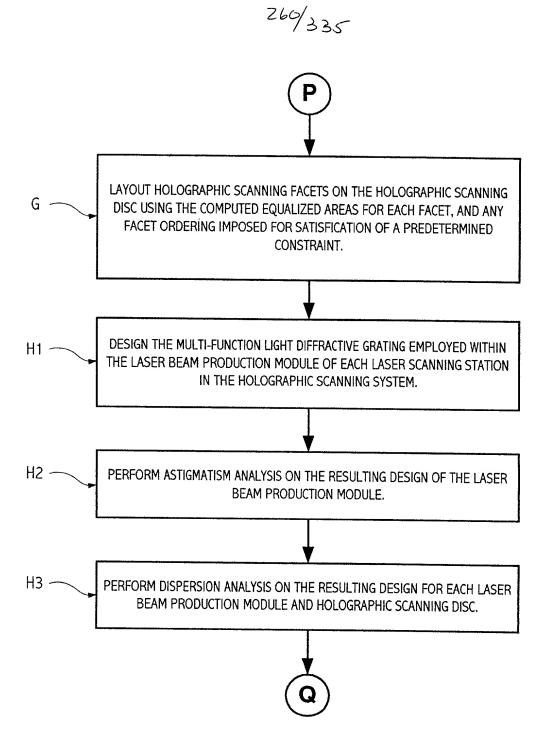


FIG. 7Q

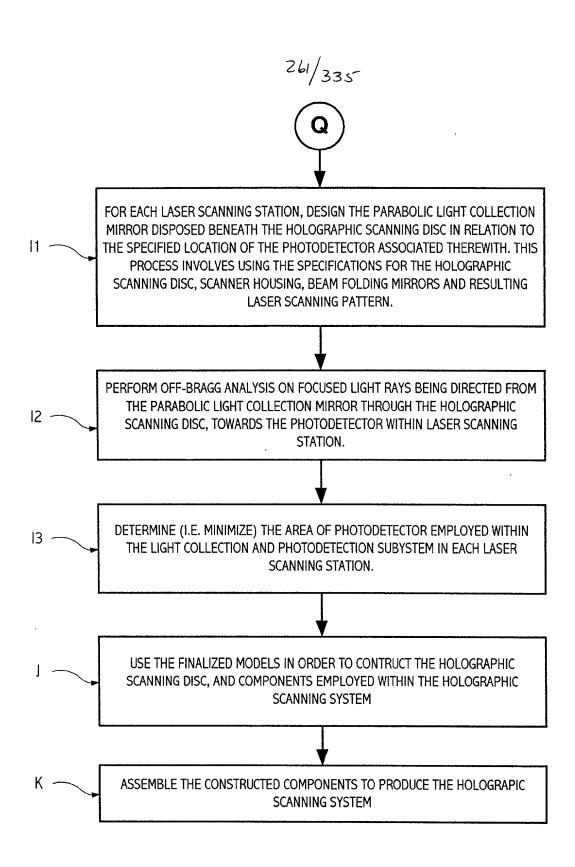


FIG. 7R

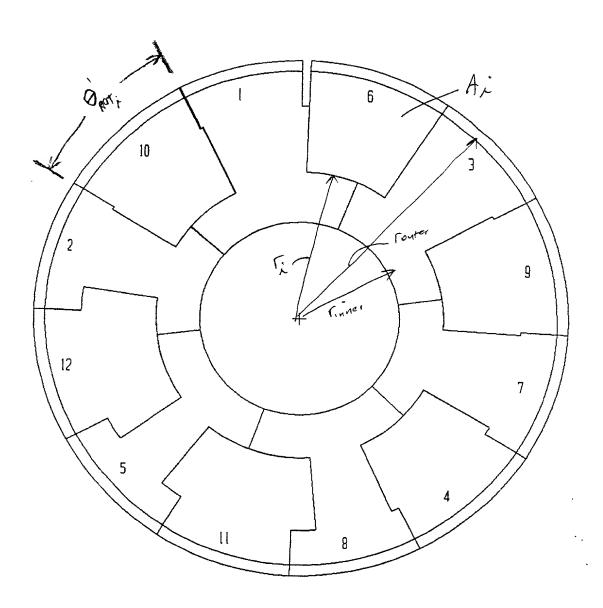


FIG.8A

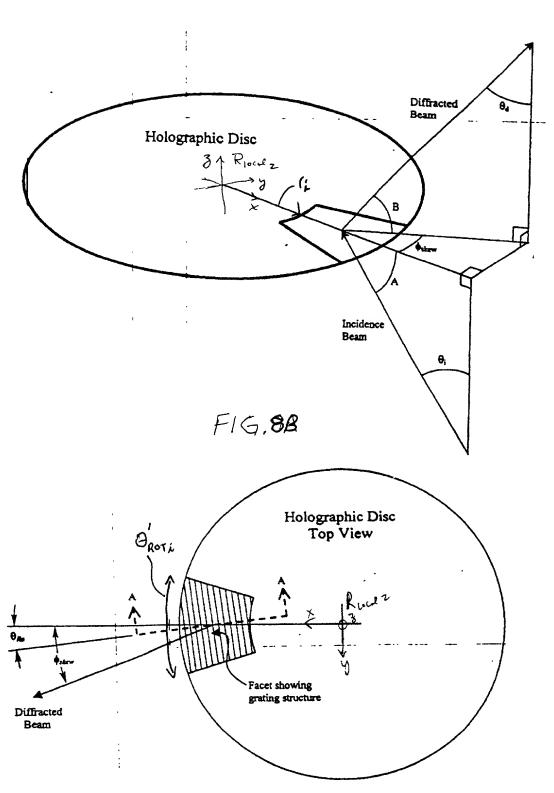


FIG. 88.

- (1) THE RADIUS TO BEAM-INCIDENT-POINT ON THE HOLOGRAPHIC SCANNING DISC, ASSIGNED THE SYMBOLIC NOTATION " ${\bf r_0}$ "
- (2) THE DISTANCE FROM RADIUS TO BEAM-INCIDENT-POINT ${\bf r_0}$ TO BEAM FOLDING MIRROR , ASSIGNED THE SYMBOLIC NOTATION "L"
- (3) THE FACET NO. ON THE HOLOGRAPHIC SCANNING DISC, ASSIGNED THE SYMBOLIC NOTATION "i"
- (4) THE DISTANCE FROM THE BEAM INCIDENT POINT ON THE VIRTUAL SCANNING DISC TO THE FOCAL PLANE WITHIN WHICH THE (i, j)-TH SCANLINE RESIDES, ASSIGNED THE SYMBOLIC NOTATION " f_i "
- (5) THE DIAMETER OF THE CROSS-SECTION OF THE LASER BEAM SCANNING STATION, ASSIGNED THE SYMBOLIC NOTATION " \mathbf{d}_{BEAM} "
- (6) THE ANGULAR GAP BETWEEN ADJACENT HOLOGRAPHIC SCANNING FACETS, ASSIGNED THE SYMBOLIC NOTATION " $\mathbf{d}_{\mathsf{GAP}}$ "
- (7) THE OUTER RADIUS OF THE AVAILABLE LIGHT COLLECTION REGION ON THE HOLOGRAPHIC SCANNING DISC, ASSIGNED THE SYMBOLIC NOTATION " ${\bf r}_{\rm OUTER}$ "
- (8) THE INNER RADIUS OF THE AVAILABLE LIGHT COLLECTION REGION ON THE HOLOGRAPHIC SCANNING FACET, ASSIGNED THE SYMBOLIC NOTATION " $\mathbf{r_{INNER}}$ "
- (9) THE FOCAL LENGTH OF THE i-TH HOLOGRAPHIC SCANNING FACET FROM THE SCANNING FACET TO THE CORRESPONDING FOCAL PLANE WITHIN THE SCANNING VOLUME, ASSIGNED THE SYMBOLIC NOTATION " \mathbf{f}_i "
- ($\mathbf{10}$) INCIDENT BEAM ANGLE, ASSIGNED THE SYMBOLIC NOTATION " $\mathbf{A_i}$ "

- ($\bf 11$) DIFFRACTED BEAM ANGLE, ASSIGNED THE SYMBOLIC NOTATION " $\bf B_i$ "
- (12) THE SCAN ANGLE OF THE LASER BEAM , ASSIGNED THE SYMBOLIC NOTATION " θ_{Si} "
- (13) THE SCAN MULTIPLICATION FACTOR FOR THE i-TH HOLOGRAPHIC FACET, ASSIGNED THE SYMBOLIC NOTATION " \mathbf{M}_i "
- (14) THE FACET ROTATION ANGLE FOR THE i-TH HOLOGRAPHIC FACET, ASSIGNED THE SYMBOLIC NOTATION " θ_{ROTi} "
- (15) ADJUSTED FACET ROTATION ANGLE ACCOUNTING FOR DEADTIME, ASSIGNED THE SYMBOLIC NOTATION " θ'_{ROTI} "
- (16) THE LIGHT COLLECTION EFFICIENCY FACTOR FOR THE i-TH HOLOGRAPHIC FACET, NORMALIZED RELATIVE TO THE 16TH FACET, ASSIGNED THE SYMBOLIC NOTATION " ξ_i "
- (17) THE MAXIMUM LIGHT COLLECTION AREA FOR THE i-TH HOLOGRAPHIC FACET, ASSIGNED THE SYMBOLIC NOTATION "Area;"
- (18) THE ANGLE OF SKEW OF THE DIFFRACTED LASER BEAM AT THE CENTER OF THE i-TH HOLOGRAPHIC FACET, ASSIGNED THE SYMBOLIC NOTATION " ϕ_{SKEW} "

PARAMETER EQUATION USED IN THE SPREADSHEET DESIGN OF THE SCANNER

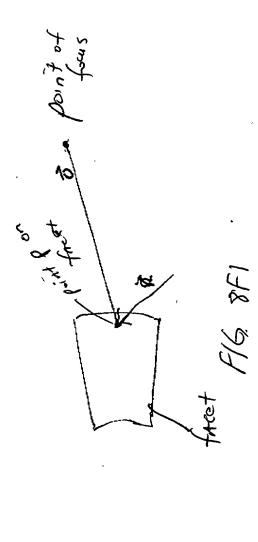
- (1) f_i Focal Length f_{i-th} facet
- (2) B_i Elevation Angle; $\theta_{dif} i = 90 B_i$
- (3) θ_{si}

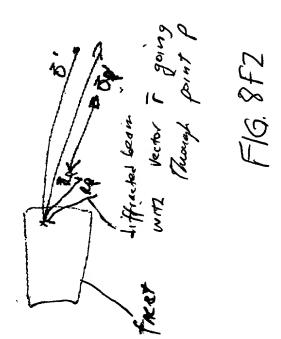
(4)
$$M_i := \frac{r_0}{f_i} \cos(\theta_{skew}) + \cos(\lambda_i) + \cos(B_i)$$

(5)
$$\theta_{\text{roti}} := \frac{\theta_{\text{Si}}}{M_{\text{i}}}$$

(6)
$$\theta'_{\text{roti}}$$
: = $\theta_{\text{roti}} + \frac{d_{\text{beam}}}{r_0} + \frac{d_{\text{gap}}}{r_0}$

(7)
$$\xi_i$$
 := $\left[\frac{f_i}{f_{20}}\right]^2 \frac{\sin\left[B_{20}\right]}{\sin\left(B_i\right)} H_i$





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F1G. 8F4 8F4

73

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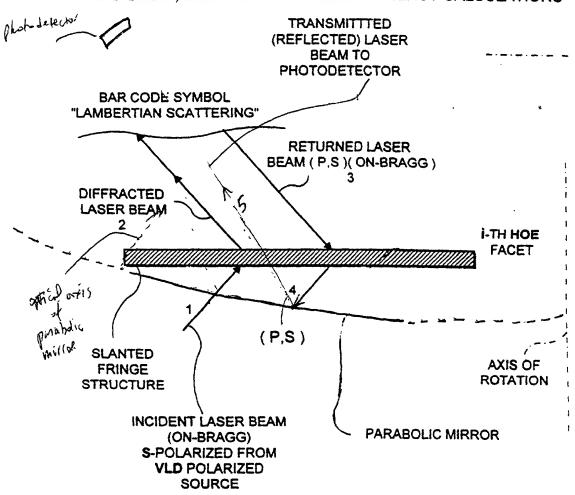
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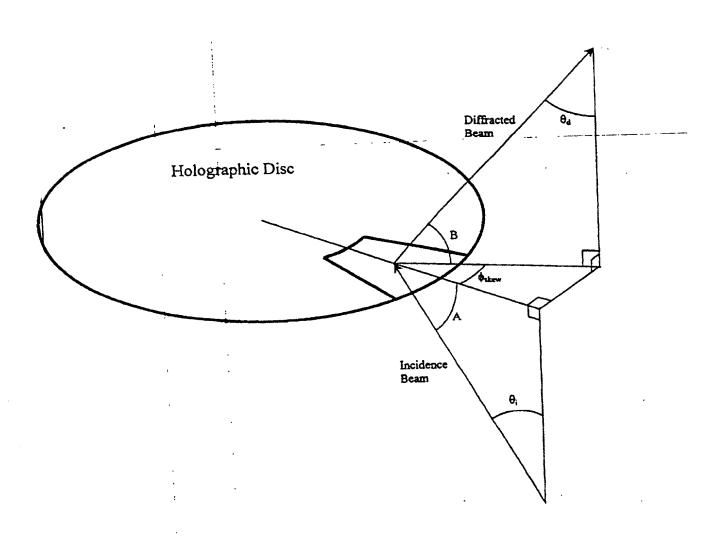
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	_	_																		1							
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oral brea	the located of the	and tenness located at the mexiciant depth of field limits for each tacel.	noth of fleid lim	its for each tace	_												Detect	Detector sensitivity (mV/mW):	nV/nW):	6.27					From	medimum	
Assume	Assumes everage anough offset of	ster offset of:		0.7 degrees	Greek					(At maximum								(Targets lo	cated at the	(Targets located at the (Targets located at the	od at the				Pce	depth of	
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	-	mucello	fruncation (seese)			0.0			0.0027279	0.0017176			•	070			•	0.86 873	5.47	875	3.45	1.79	92 05 60	000	2.99	2.38	
						0.89			0.002684				•	110			-	0.06 874	5.48	572	3,59	2.07		0 0 06	2.97	2,40	
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	•		ŀ	-	f	18			1000000				•	•			_		C\$ 9	- Sun	3.83	*	28.70	0.72	2.79	232	

F16.9

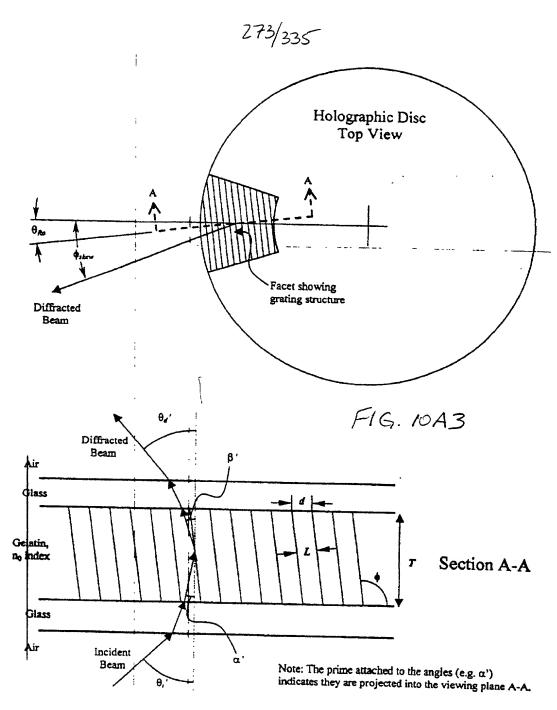
GEOMETRICAL OPTICS MODEL FOR HOLOGRAFIC (TOTAL OUT AND BACK) LIGHT DIFFRACTION EFFICIENCY CALCULATIONS



F I G. 10A1



F1G.10AZ



F16.10A4

S AND P DIFFRACTION EFFICIENCY ANALYSIS FOR THE MOST GENERAL CASE

The following analysis takes into consideration slanted fringes, skewed design, off-Bragg effects, and disc rotation effects. It is assumed that the wavelength does not deviate from the design, and that all scattering, absorption, and reflection losses are taken into account by the transmission coefficients, t_s and t_{cs} which are determined by measurement.

Definitions:

- θ_i = Angle of incidence outside the HOE ($\theta_i = 90^{\circ} A$);
- α = Angle of incidence inside the HOE;
- θ_d = Angle of diffraction outside the HOE ($\theta_d = 90^{\circ} B$);
- β = Angle of diffraction inside the HOE;
- ϕ_{skew} = Skew angle of the HOE;
- ϕ = Tilt of Bragg planes ($\phi = \frac{\pi}{2}$ for no tilt);
- θ_R = Rotation angle of HOE grating ($\theta_R = \theta_{Ro}$ when facet is centered);
- L = Separation of the Bragg planes;
- T = Thickness of the HOE medium;
- d = HOE surface fringe spacing;
- n_0 = Average refractive index of HOE medium;
- n_1 = modulation (i.e. amplitude of periodic variation) of refractive index;
- λ_a = Laser wavelength in air;
- t_s = Transmission of S-polarization through disc considering losses;
- t_a = Transmission of P-polarization through disc considering losses.

FIG. 10B

(1)
$$\alpha = \arcsin\left(\frac{\sin\theta_i}{n_0}\right)$$

(2) $\beta = \arcsin\left(\frac{\sin\theta_d}{n_0}\right)$
(3) $\phi = \arcsin\left(\frac{\cos\beta - \cos\alpha}{\sqrt{2(1 + \sin\alpha\sin\beta\cos\phi_{skew} - \cos\alpha\cos\beta)}}\right) + 90$
(4) $d = \sqrt{\frac{\lambda_a^2}{\sin^2\theta_d\sin^2\phi_{skew} + (\sin\theta_i + \sin\theta_d\cos\phi_{skew})^2}}$
(5) $L = d\sin\phi$
(6) $C_R = \cos\alpha$
(7) $C_S = \cos\alpha - \frac{\lambda_a}{n_0 L}\cos\phi$
(8) $N = \pi n_1 + \frac{T}{\lambda_a \sqrt{C_R C_S}}$
(9) $\theta_{Ro} = \arcsin\left(\frac{d}{\lambda_a}\sin\theta_d\sin\phi_{skew}\right)$
(10) $\Gamma = \frac{2\pi(\sin\alpha\sin\phi\cos\theta_{Ro} + \cos\alpha\cos\phi)}{L} - \frac{\pi\lambda_a}{n_0 L^2}$
(11) $S = \Gamma \frac{T}{2C_S}$
Figure 10C1

(12)
$$\kappa = -\sin \alpha \sin \beta \cos \phi_{skew} + \cos \alpha \cos \beta$$

(12)
$$\kappa = -\sin \alpha \sin \beta \cos \phi_{skew} + \cos \alpha \cos \beta$$
(13)
$$E_{par} = \frac{\left(\sin\left(\sqrt{N^2 + S^2}\right)\right)^2}{1 + \frac{S^2}{N^2}}$$

(14)
$$E_{perp} = \frac{\left(\sin\left(\sqrt{(N\kappa)^2 + S^2}\right)\right)^2}{1 + \frac{S^2}{(N\kappa)^2}}$$

(15)
$$P_{par} = \frac{-\sin\phi\sin\theta_{Ro}}{\sin(\arccos(-\sin\alpha\sin\phi\cos+\cos\alpha\cos\phi))}$$

$$(16) P_{perp} = 1 - P_{par}$$

Diffraction efficiencies E_i and E_p , given losses t_s and t_p which are specific to each polarization and include absorption, scattering, and reflection losses from AR coatings on the outer surfaces of the disc glass.

(17)
$$E_{s} = \left(E_{perp}P_{par} + E_{par}P_{perp}\right)t_{s}$$
(18)
$$E_{p} = \left(E_{perp}P_{perp} + E_{par}P_{par}\right)t_{p}$$

(18)
$$E_p = \left(E_{perp}P_{perp} + E_{par}P_{par}\right)t_p$$

total out-and-back efficiency is given by T_s , assuming no polarizer in front of the photodetector

$$(19) T_s = E_s \frac{E_s + E_p}{2}$$

(20)
$$\theta_d \{\theta_R\} = \arcsin \sqrt{\left(\frac{\lambda_a}{d}\right)^2 - 2\frac{\lambda_a}{d}\cos\theta_R\sin\theta_i + \sin^2\theta_i}$$

(21) $\phi_{skew} \{\theta_R\} = \arctan\left[\frac{\sin\theta_R}{\cos\theta_R - (d/\lambda_a)\sin\theta_i}\right]$

(21)
$$\phi_{skew} \{ \theta_R \} = \arctan \left[\frac{\sin \theta_R}{\cos \theta_R - (d/\lambda_a) \sin \theta_i} \right]$$

(22)
$$T_s\{\theta_{i\max}\}\cos\theta_d|_{\theta_R=\theta_{Ro}-\frac{1}{2}\theta_{ROTi}} = T_s\{\theta_{i\max}\}\cos\theta_d|_{\theta_R=\theta_{Ro}+\frac{1}{2}\theta_{ROTi}}$$

The design efficiency of the ith facet is given by evaluating T, at the design incidence angle, θ_i , the design rotation angle, θ_{Ro} , and the index modulation that maximizes the efficiency, n_{1max}, given the true maximum efficiency incidence angle, θ_{imax} , that results from equation (22). The relative efficiency, Hi, is then given by dividing the total efficiency of the first facet by that of the th facet.

(23)
$$H_i = \frac{T_{s1}}{T_{si}\{\theta_i, \theta_{i \max}, \theta_{Ro}, n_{1 \max}\}}$$

Figure 10C3

Diffraction Efficiency Variation with Disc Rotation

Facet 1: before optimization

Fixed design parameters:

$$\theta_i = 38^{\circ}$$

$$\theta_d = 52^{\circ}$$

$$\phi_{skew} = 0^{\circ}$$

$$\lambda_a = 650 \text{ nm}$$

DCG parameters:

$$T = 2.5$$
 microns

$$n_0 = 1.40$$

$$n_1 = 0.121$$

Relative signal is equal to $T_s \cos \theta_d$. Note that the relative signal falls off as the rotation angle goes away from zero. This is for a maximum efficiency incidence angle, θ_{imax} , equal to θ_i (38°). This indicates a non-optimum configuration.

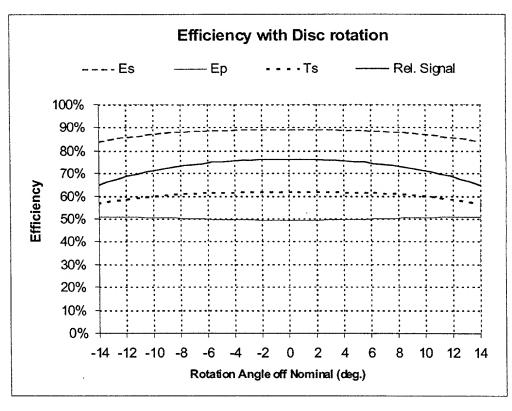


FIG. 10D1

Diffraction Efficiency Variation with Disc Rotation

Facet 1: after optimization

Fixed design parameters:

$$\theta_i = 38^{\circ}$$

$$\theta_d = 52^{\circ}$$

$$\phi_{skew} = 0$$

$$\phi_{skew} = 0^{\circ}$$
 $\lambda_a = 650 \text{ nm}$

DCG parameters:

T = 2.5 microns

$$n_0 = 1.40$$

$$n_1 = 0.121$$

Relative signal is equal to $T_s \cos \theta_d$. Note that the relative signal at a rotation angle of $\pm 13^{\circ}$ is equal to the relative signal at 0° . This is achieved when the maximum efficiency incidence angle, θ_{imax} , is 36.3°.

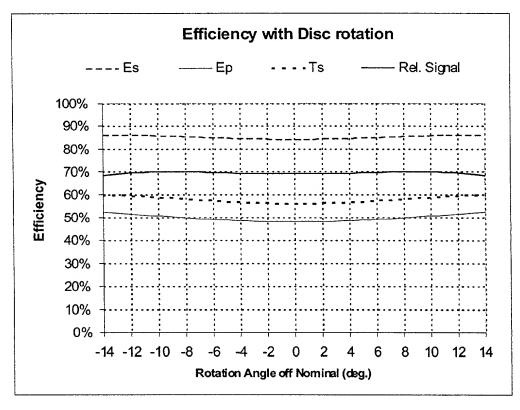


FIG. 10D2

Diffraction Efficiency Variation with Disc Rotation

Facet 7: before optimization

Fixed design parameters:

 $\theta_i = 38^{\circ}$

 $\theta_d = 32^{\circ}$

 $\phi_{skew} = 28^{\circ}$

 $\lambda_a = 650 \text{ nm}$

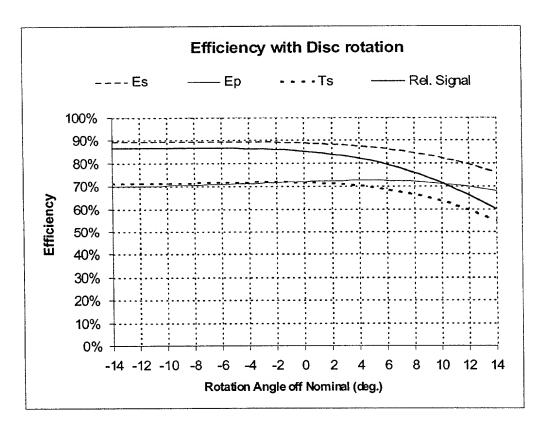
DCG parameters:

T = 2.5 microns

 $n_0 = 1.40$

 $n_1 = 0.121$

Relative signal is equal to $T_s \cos \theta_d$. Note that the relative signal falls off as the rotation angle goes from negative to positive. This is for a maximum efficiency incidence angle, θ_{imax} , equal to θ_i (38°). This indicates a non-optimum configuration.



F19. 10E1

Diffraction Efficiency Variation with Disc Rotation

Facet 7: after optimization

Fixed design parameters:

$$\theta_i = 38^{\circ}$$

$$\theta_d = 32^{\circ}$$

$$\phi_{skew} = 28^{\circ}$$

$$\lambda_a = 650 \text{ nm}$$

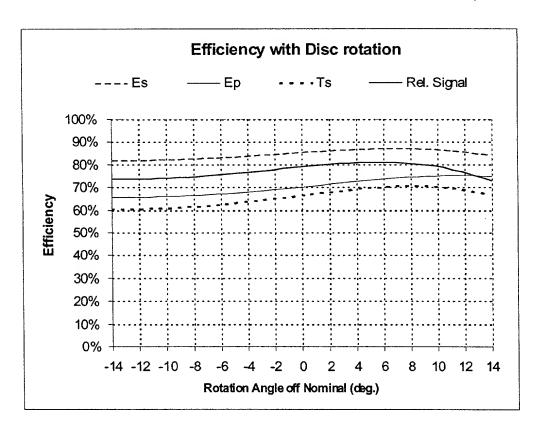
DCG parameters:

T = 2.5 microns

$$n_0 = 1.40$$

$$n_1 = 0.121$$

Relative signal is equal to $T_s \cos \theta_d$. Note that the relative signal at a rotation angle of -14° is equal to the relative signal at +14°. This is achieved when the maximum efficiency incidence angle, θ_{imax} , is 35.8°.



F1G. 10EZ

S and P Diffraction Efficiency Calculations

It is assumed that there is no deviation from the nominal wavelength.

External incidence angle:
Internal incidence angle:
Geletin effective thickness:
Average bulk refractive index:
S-polarization losses:
P-polarization losses:
Ceet-independents:
38 deg
26.09 deg
25.09 deg
25 microns
1.4
Refractive index modulation:
0.121
S-polarization losses:
10%
P-polarization losses:
10%

			The second second							-		
L		2	-	7	H ₂	θ_{imax}	Omax	Bmax	Φs max	⊖-	7	PROT
Facel	ρ	2.	ų skew	3	0H2	(dod.)	(den)	(dea.)	(ded.)	(deg.)	(mu)	(deg.)
200	(deg.)	(deg.)	(deg.)	(mn)	(neg.)	(near)	(600)	(6)				
								1	0	04.40	0 197	26.24
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	25.00	34.25	>	50	9 6	00.00	25.02	34.34	0.00	85.34	468.9	28.35
^	50.00	33.17	0	470.4	0.00	30.30	20.02	5 6		02 20	477.1	26.66
1 0	000	30.08	c	478.4	0.00	36.30	25.02	33.21	0.00	00.00		0
າ	40.04	05.00	•	0 00	9	06 AC	25.02	32.05	0.00	86.48	480.0	23.13
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ч	42.00	28.55	0	505.9	0.00	36.30	20.02	29.00	3.0	0 0	0 702	80.00
0	16:00			6270	000	36.30	25.02	27.17	0.00	88.92	0770	00.20
9	38.00	56.09	>	6.120	3 5	0 0	6, 70	23.45	26.52	90.64	584.6	27.99
7	32.00	22.24	82	584.7	12.93	35.80	24.70	5.04	10:01	79 00	5846	97 99
- 0	00 00	22.24	86.	584.7	-12.93	35.80	24.70	23.45	76.02	10.00	7	20.00
0	26.00		ì	000	10 50	25 56	24.55	22.26	26.27	91.1	900.	20.00
တ	30.00	20.92	83	2.000	20.21	0 0	100	90 00	70,90	91.17	600.1	30.65
Ç	30.00	20.92	. 58	600.2	-12.52	35.56	24.55	02.22	1200	90+0	6166	29 19
2 ;		0	ä	617.0	12.08	35.72	24.65	20.83	20.28	91.30	0.0	01.04
=	28.00	80.8	Q i	2	000	27.70	24 65	20.83	-26.28	91.96	616.6	29.19
12	28.00	19.59	-58	617.0	-12.08	32.72	24.00	20.00) ! }			

FIG. 10F1

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		TOMOS/	000										
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010	1 706	53.05	53.05	34.81	34.81	-25.05	25.05	0.0380	0.2168	0.0380	0.000	0.00	0000
0.010	200		EO 64	22 54	22 51	-23.91	23.91	0.0586	0.2143	0.0586	0.0885	0.3232	0.0885
0.829	1.695	20.01	20.00	0.00	500		100	2000	0.0146	0.0285	0.0424	0.3150	0.0424
0.839	1.684	49.05	49.05	32.65	32.65	-20.45	20.40	0.0203	0.410	0.0500		0000	90000
0000	000	74.60	44.60	30.16	30.16	-26.20	26.20	0.0438	0.2057	0.0438	0.0636	0.2987	0.0000
0.80	2007	44.03	50.4	0.00	1 0	000	00	0.0176	0 1002	0.0176	0.0250	0.2825	0.0250
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0.00	000.	200	92.00	98.80	20.76	-53.28	2.39	-0.1618	0.2307	0.3498	-0.2230	0.3180	0.4820
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0.914	1.614	27.96	37.62	19.57	25.85	-6.49	22.82	0.0040	0.62.0	0.1.7		0000	7 405 4
	1 644	27.60	27 06	25.85	19.57	-55.95	6.49	-0.1726	0.2510	0.3549	-0.2360	0.3432	0.4004
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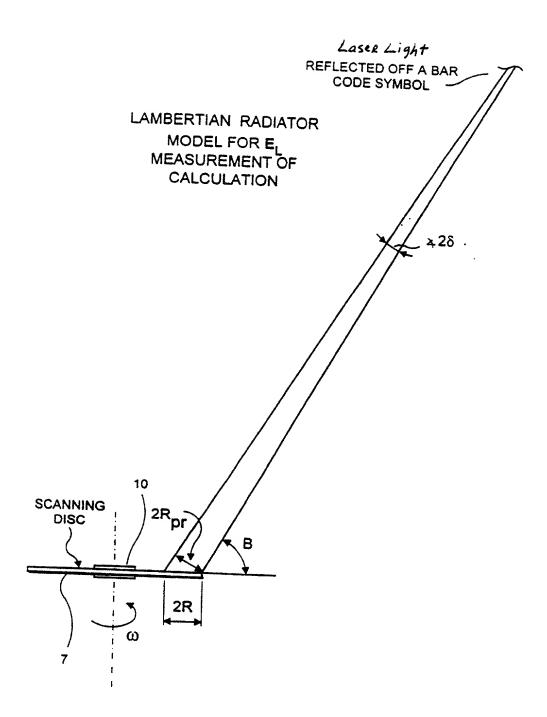
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	+½в _{вот}	29.7%	61.0%	62.2%	63.4%		65.7%	%2'.29	%6.99	/ou U	00.00	67.4%	%6:09	,00	69.3%	/00 CO	02.0%
Ts	θ_{Ro}	22.6%	57.0%	58.3%	59 6%	20.00	62.2%	64.6%	66.2%	/00 99	00.Z.%	66.1%	66.1%		%6'.29	,oo	%6.70
	-1⁄20 _{ВОТ}	29.7%	61.0%	62.2%	63 4%	2	65.7%	%1.79	60.5%	2000	00.3%	%6:09	67.4%		63.6%	\o	69.3%
	+%в _{вот}	53.9%	56.2%	57.7%	80.0%	0.00	63.4%	67.2%	75.5%	0.00	%0.79	76.7%	68 3%		77.9%	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	/0.4%
E_{p}	θ_{Ro}	48.8%	50.8%	52.2%	54 70/	04.7%	58.7%	62.5%	70.5%	20.01	70.5%	71.4%	71 40%	2	73.1%		73.1%
	-1/20ROT	53.9%	56.2%	57.7%	2000	80.0%	63.4%	67 2%	67.0%	0/0/10	75.5%	68.3%	76 70%	2	70.4%		77.9%
	+1⁄20нот	85.6%	85.0%	96.3%	00.5% 10.0%	86.5%	87.2%	87.5%	2000	00.30	81.5%	83.9%	04.00	0 1:10	85.0%		82.9%
Ē,	Θ_{Ro}	%8 68	0.0.0% 84.0%	04.3%	04:0%	82.2%	86.0%	86.6%	00.00	02.1%	85.1%	84 7%	2 7 70	04.7	85.6%		82.6%
	-1⁄2θ _{РЮТ}	85 6%	00.00	00.87% 00.00%	00.0%	86.5%	87 2%	07.50	9 20	81.5%	83.9%	81.4%	2 2 2	00.00	80 G%	20.70	85.0%

0.255193744

Figure 10FH



F16.1061

FACET LIGHT COLLECTION EFFICIENCY

Z = DISTANCE FROM SCAN POINT ON LABEL (MAX = FOCAL)

LENGTH PLUS 5 INCHES

Area = AREA OF CORRESPONDING FACET

R = RADIUS OF EFFECTIVE CIRCULAR APERTURE

R.pr = RADIUS OF PROJECTED EFFECTIVE CIRCULAR APERTURE

B = ANGLE BETWEEN OUTGOING BEAM AND THE DISC

 δ = half-angle subtended by effective projected

CIRCULAR APERTURE

E.L = LAMBERTIAN LIGHT COLLECTION EFFICIENCY

FIG. 10G2

$$R_{pr} := \sqrt{\frac{Area sinB}{\pi}}$$

$$\delta$$
 : = atan $\left[\frac{R_{pr}}{Z}\right]$

 $E_L := (\sin(\delta))^2$

FIG. 10G3

The first case was made and the first case that all the desired that all the first case that the first cas

TRNCStatos-S-Pol.xis
Degrees to redisns conversion factor:
0.017453293
Truncation analysis, Effect of truncation on the diffraction limited spot size of a Gaussian beam

Given the laser and lens parameters, this aproadsheat will calculate the effect of truncation on the beam. The final result is an "effective dismeter." This is an equivolent life-equared dismeter that will produce the same agot alze at the focal point as the ectual truncated beam. This is also the beam diameter that will be inserted in the main examer disk dealign spreadsheat.
The actual number linked to the main apreadsheat will be a counded number. If will useful be rounded up 0.1 to allow for tolerances.

H ⊭ Hoys; K ≈ Kodak; P ≈ Philips; G ≈ GelTech (Alternate choicss - from Tom's table)	KA397 WA41 K77 PIACOS2 PIAC320 WA129 P777 WA62 WAH11 PIAC355 WAS1 WA370 GJ35056 GJ3505430 1	65 65 64 63 58 638 65 637 5 805 2.8 35 3.3 3.7 3.1 3.2 3.4 3.1 3.3 2.9 2.1 1.7		m = 1s the *equeved futrocation m > 2s sessentially no truncetion		TA-squared radius at focal plane is 'increased by this factor due to truncation.	To determine the effective diameter, very Z0 until (AZDyA(0))*2 = 0.1353353 or, equiveenty, until LiA(ZDyA(0))*2-a- This can most easily be done by using the SOLVER function of Excel Tools:	\$4,231; Velue = -2 = \$5,529	This is the effective beam claimeter that is the George and the control of the Geus apreadables.
	K/A39	lens diam dbeam-eff	;	m = 1 is 1/s m > 2 is es:		equared radius at reased by this fact	determine the effect v Z0 until (A(Z0)A(() until Ln() until Ln() s can most easily be S0LVER function	Farget cell ≈ \$C\$31; Value = -2 Change cell = \$C\$29	This is the effective beam diameter is linked to the Gous spreadaheet
650 30 4	G/350430 5 0.15		1.188	1.263	0 792	1/e Inc	ot ver the the	-	is the
		Clear Aperture (mm)	at lens (mm)	Aperture factor (m)	iam radius 1 aperture)	1.219	3.078 0.1353353 -2.000000001	0.97	1.10
Wavelength (nm) theta-P (degrees) theta-S (degrees) Astigmatiam (microns)	focal lang Numerica	Clear Apr	1/e-squared beam dismeter at lens (mm)	Aperture	1/e-aquared beam radius (for normalized aperture)	Truncation factor.	ZO: (A(ZOVA(O))^2 = Ln((A(ZOVA(O))^2) =	sneter:	t value:
Sony SLD1137VS	Lens:	;	1/e-squared			Truncati	(AG Ln((AG	Effective diameter:	Spreadsheet value:

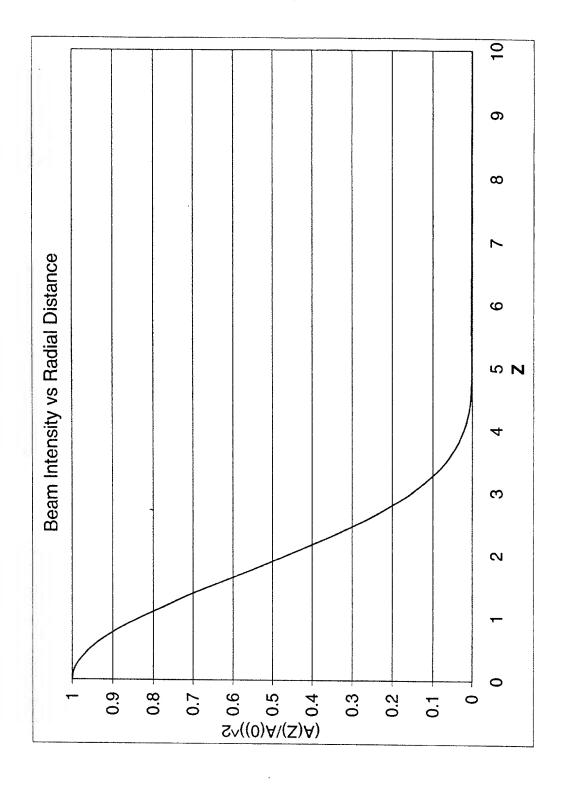
The remaining part of this spreadeheat is simply the numerical integration for the differedimengeaution (Agis from the Mathcad program. If includes the evaluation of the functions (AGZ/A(0))*2 and Ln((ACZ)A(0))*2). It also includes a graph of (A(Z)A(0))*2 vs Z.

delta-r

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1.3		1E-04 0.0002 0.000299 0.000499 0.000499 0.000693 0.000683 0.00086 0.001073 0.001156 0.001156
7		1E-04 0.0002 0.00029 0.000299 0.000299 0.000598 0.000599 0.000981 0.000981 0.000981 0.000981 0.000981 0.000981 0.000981
2		1E-04 0.00029 0.000299 0.000299 0.000098 0.00098 0.000986 0.000986 0.000986 0.000986 0.000986 0.000986 0.000986 0.000986 0.000986 0.000986 0.000986 0.000986 0.000986 0.000986 0.000986 0.000988
-		1E-04 0.0003 0.0003 0.0003 0.00039 0.000498 0.0000498 0.0000498 0.0000781 0.0000781 0.0000782 0.0001788 0.0001788 0.0001788
6:0		1E-04 0,0002 0,0002 0,00039 0,000498 0,000498 0,000596 0,000596 0,000597 0,000987 0,000987 0,000987 0,000987 0,000987 0,000982 0,000987 0,000987 0,000987 0,000987 0,000987 0,000987 0,000987 0,000987 0,000987
8.0		1E-04 0,0002 0,0003 0,0003 0,00039 0,00039 0,00059 0,00059 0,00059 0,00079 0,00039 0,00079 0,00079 0,00079 0,00079 0,00079 0,00079 0,00077
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9.0		1E-04 0.0002 0.0003 0.00039 0.000399 0.000399 0.000584 0.000583
0.5		1E-04 0-0003 0-0003 0-0003 0-00039 0-000499 0-000699 0-000699 0-000792 0-0000792 0-0000792 0-0000792 0-0000792 0-0000792 0-0000792 0-00007
0.4		1E-04 0.0002 0.0003 0.00039 0.00048 0.000694 0.000694 0.000792 0.000792 0.000792 0.001792 0.001078
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° 5.	-	0 8972 9957 9957 8981 8011 8565 4551 1876 9449 1179 8977
	A(Z1)	9,99841E-05 0,000199872 0,00029957 0,00029951 0,00029891 0,00028655 0,000791876 0,0001078177 0,0001078171 0,0001078171 0,0001078171 0,0001078171 0,0001078171
Zn = delta-Z =		
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	*-(r/r0)^2	0 0 0.000 0.000 0.00 0.00 0.00 0.00 0.
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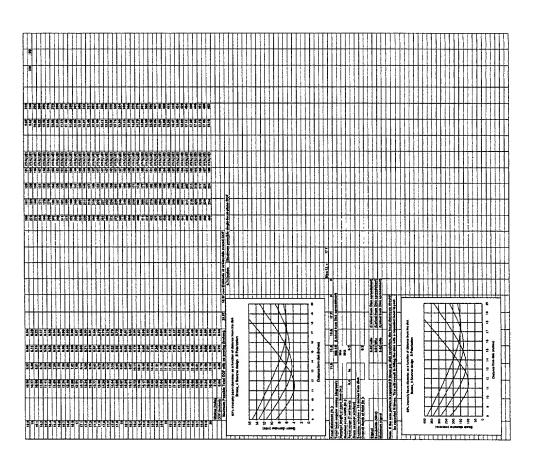
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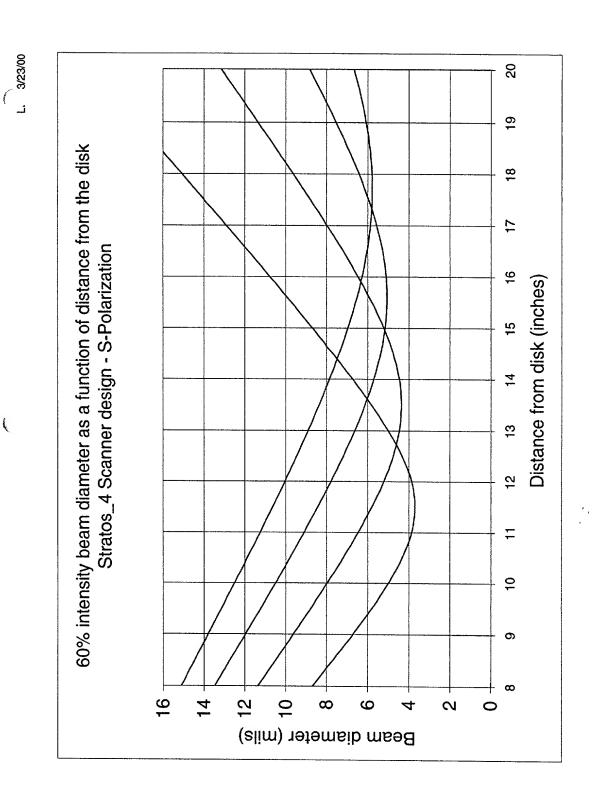
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	^^^ 라 라 다 다 다 다 다 다 다 라 다 라 다 라 라 라 라	ি <u>শালাল বিভাগে বিভাগের প্রভাগের সভাল সম্ভাগের সম্ভাগের বিভাগের বিভাগের সভাগের প্রভাগের বিভাগের >	ি <u>শালাল বিভাগে বিভাগের প্রভাগের সভাল সম্ভাগের সম্ভাগের বিভাগের বিভাগের সভাগের প্রভাগের বিভাগের >		^ম াশালাল বিভাগে বিভাগের প্রভাগের সভাল সভাল সভাল সভাল সভাল সভাল সভাল সভাল									######################################	######################################		

F19 1181

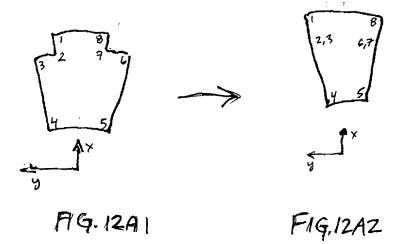


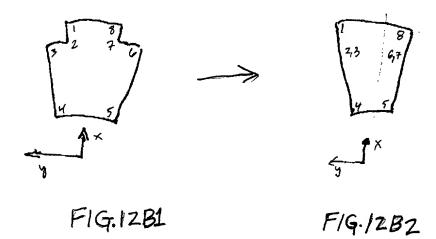
F16.11BZ

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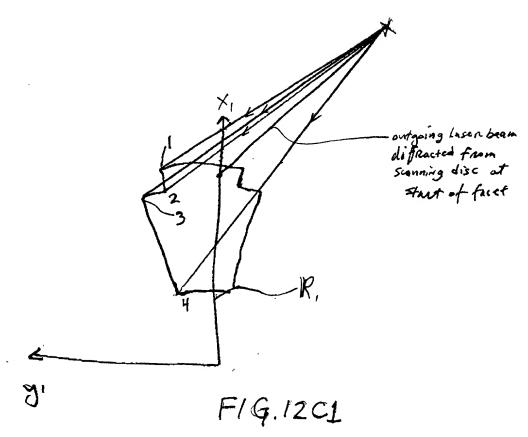


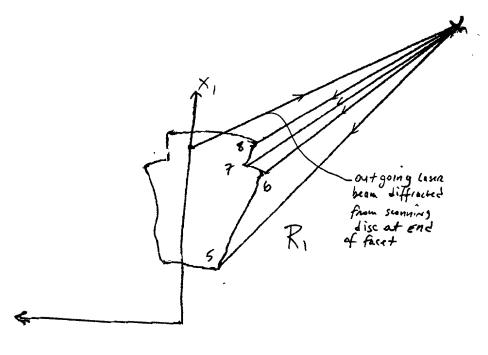
F16,1183



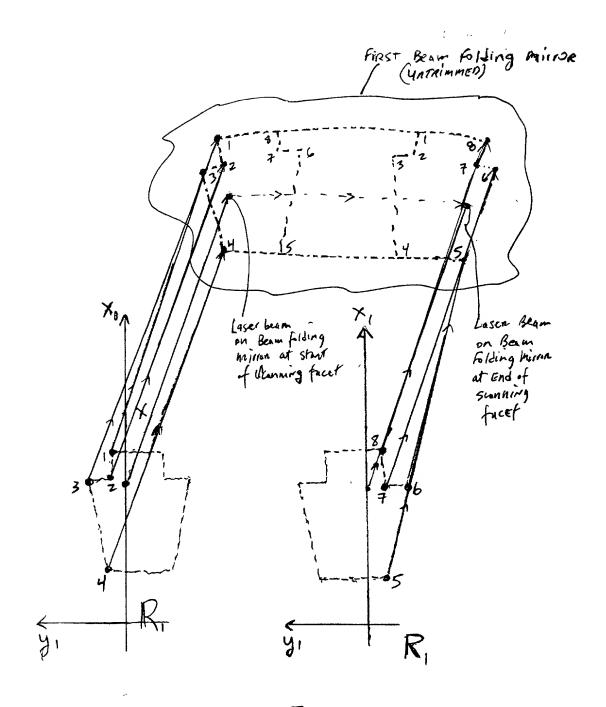








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F1G, 12D

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1		,			٥			n			
75		_			1						
1		Parce			Facet			Facet			
9/		ו מרכו			40			12			
77	77 G1	80			2	0,110	10000	0 75050	0 10025	2 00325	
1	Doint 1	3 94874	-0 02294	2.12380	3.83250	0.0//18	2.09937	0.10000	0.10020	2000	
হ		0.00	0 10030	2 16443	3 53978	-0.02665	2.14166	3.45010	0.00887	2.13498	
2	Point 2	3.00113	-0.12030	2.10173	0.000	200000	0 1/166	3 44555	0.02059	2.13175	
S	Point 3	3.61581	-0.03502	2.14098	3.53978	-0.02000	2.14100	2001	20000	00000	
3		10000	0 40575	2 28887	2 88384	-0.25930	2.23643	2.44051	-0.31915	2.27208	
8		2.04091	0.402-0-	70000		1 79/80	2 65801	2.54066	-1.56107	2.63017	
S	Point 5	2.79472	-1.59304	2.62907	3.02044	-1.72403	4.00001	0100	4 1000	20000	
3 8		2 81419	-2 04371	2.71867	3.69455	-2.02106	2.71697	3.56179	+CZZU.Z-	7.72200	
3		0.00	100.470	A0504	2 60455	-2 02106	2.71697	3.56439	-2.01174	2.71960	
84	Point /	3.82907	-1.304/0	7.00004	0.0010	1000	0 749EE	2 86380	-2 14515	2.74622	
a o	Point 8	4.13065	-2.08452	2.71758	3.98553	concl.2-	2.14200	0.000		10000	
3 8		2 04874	-0 02294	2.12380	3.83250	0.07718	2.09937	3.75358	0.10925	27.09325	
g		10000	2000	0 21174		-0 62341	2.30000	3.82454	-0.57134	2.28883	
87	Start of scan line	4.02545	-0.6/81/	4/116.7			00000	2 02454	-0 57134	2 28883	
00		4.02545	-0.67817	2.31174	3.92247	-0.62341	2.30000	0.02404	10.0	0000	
8	COOL	00,	4 40007	O AEDEO	2 00034	-1 15860	2.45580	3.81937	-1.12321	2.44333	
88	End of scan line	4.04162	-1.10307	2.40200	0.92						
90											
			İ								

F16 13.41

MR1

ŋ			2.96322	3.05579	3.06217	3.35743	2.44937	1.80401	1.80582	1.59994	2.96322	2.40874	2.02503	1.90064	
_			2.74420	2.64904	2.66095	2.34705	-0.10460	-0.61969	-0.60869	-0.77127	2.74420	1.40993	0.50549	0.18290	
Н	Facet	11	3.80802	3.58337	3.58162	2.85731	2.54140	3.23044	3.23562	3.45674	3.80802	3.73628	3.70069	3.66728	
g			2.76685	2.86040	2.86040	3.06533	2.17660	1.74867	1.74867	1.54830	2.76685	2.29108	2.00000	1.85024	
L			2.45353	2.36537	2.36537	2.17226	-0.34045	-0.70440	-0.70440	-0.87482	2.45353	1.25640	0.54210	0.14315	
Е	Facet	6	3.91799	3.69690	3.69690	3.21262	2.81913	3.25935	3.25935	3.46547	3.91799	3.81752	3.76954	3.72144	
0			2.58609	2.69195	2.73451	3.05003	2.31221	1.68794	1.69797	1.50046	2.58609	2.19201	1.97459	1.79899	
0			2.19033	2.11753	2.20453	1.92230	-0.27369	-0.84215	-0.76438	-0.93172	2.19033	1.13139	0.57926	0.09914	
8	Facet	7	4.02247	3.79236	3.78639	3.05197	2.64347	3.25774	3.29896	3.50262	4.02247	3.88910	3.83943	3.77386	
A			Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Start of scan line	Middle of rotation	End of scan line	
	91	92 62	53	76	95	9	26	86	8	100	101	102	103	104	105

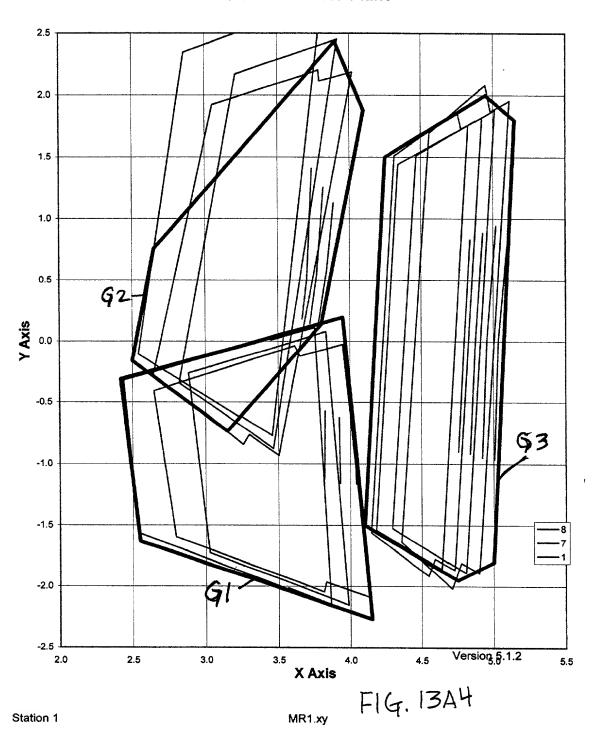
F16. 13A2

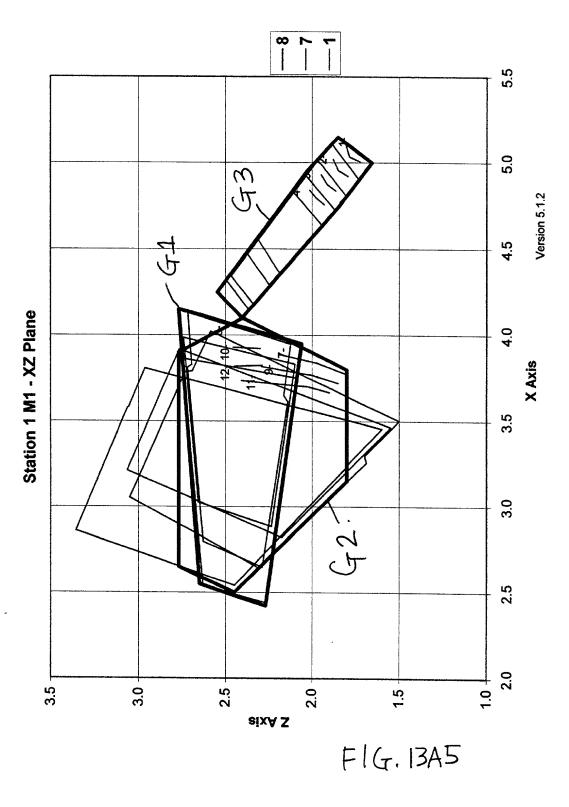
Ī	A		8	0	۵	ш	ш	g	Ξ	-	7	ᅩ	-1	Σ
8			Facet			Facet			Facet			Facet		
6	07 G3		-			2			3			4		
8		Point 1	5.11617	1.95380	1.89155	5.01400	1.88093	1.96715	4.92433	1.81870	2.03365	4.82799	1.75935	2.10576
8		Point 2	4.98460	1.86904	1.98969	4.88136	1.79109	2.06571	4.77964	1.72980	2.14196	4.68407	1.66502	2.21298
흔		Point 3	4.94695	2.08109	2.03847	4.88064	1.79549	2.06667	4.75362	1.86942	2.17507	4.68407	1.66502	2.21298
E		Point 4	4.55990	1.69707	2.31542	4.46955	1.51422	2.37191	4.31720	1.51260	2.49402	4.34215	1.44090	2.46771
12		Point 5	4.35785	-1.63559	2.18575	4.29296	-1.52325	2.24765	4.14486	-1.55897	2.36336	4.17995	-1.53887	2.33696
13		Point 6	4.71038	-2.01784	1,86940	4.68022	-1.80322	1.91239	4.54753	-1.91413	2.00915	4.50146	-1.76326	2.05933
4		Point 7	4.77395	-1.80620	1.83693	4.68147	-1.79883	1.91177	4.59009	-1.77513	1.98718	4.50146	-1.76326	2.05933
15		Point 8	4.89971	Ι.	1.72862	4.80732	-1.88882	1.80291	4.72764	-1.86391	1.86903	4.63750	-1.85821	1.94186
19		Point 9	5.11617	1.95380	1 89155	5.01400	1.88093	1.96715	4.92433	1.81870	2.03365	4.82799	1.75935	2.10576
1	9	Start of scan line	5.11614	1.00830	1.80878	5.02116	0.94389	1.87935	4.92928	0.88565	1.94798	4.84129	0.83137	2.01383
18	2	Aiddle of rotation	5.03523	0.00000	1.78542	4.95474	0.00000	1.85000	4.87537	0.00000	1.91369	4.79689	0.00000	1.97666
19		End of scan line	5.00607	-0.96140	1.72464	4.92129	-0.94701	1.79393	4.83778	-0.91710	1.86356	4.75656	-0.89961	1.93026
8														

F16.1343

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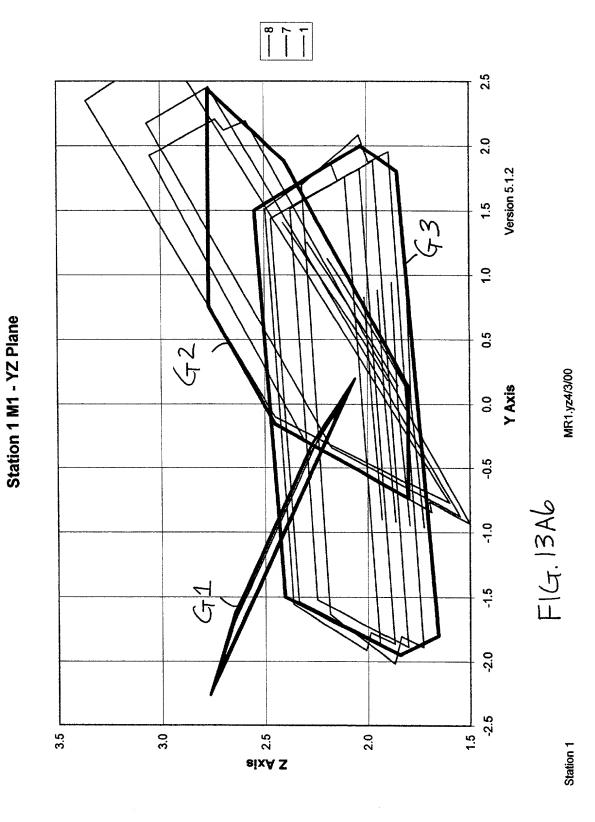
Station 1 M1- XY Plane





MR1.xz

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	r	_	_		_	_						_		_										
		7						0.50201	0 30507	0.0000	0.38888	0.07939	20200	0.98868	1 60614	7	1.002/6	1.80981	0 50004	0.3020	0.83500	0.83500	1 34651	5
	-	_						-1.69543	-1 9307E	2	-1.92664	-2.63997	2 00446	01470.0	-3.46214	2 45400	20+02-0	-3.33064	-1 69543	2000	11000.2-	-2.05611	-2.76462	7010
			8		Facet	10	1	4.64314	4.48446	OLOOP V	4.48338	4.00469	3 80481	2000	4.23639	4 23805	2	4.38465	4.64314	4 BOAE1	2.00.5	4.60451	4.46974	
	ď	,							0.57304	0.57304	400 10.0	0.38592	1.33026	,	1./2614	1.72614	17070	31915	0.66301	1 0000	2000	1.00000	1.47458	
	ш						-1 63002	00000	-1.86587	-1.86587	00000	-2.33583	-3.53306	2 2000	SOCOCY-	-3.30509	-2 1020E	0.19090	-1.63993	-2.00000	00000	2.0000	-2.64637	
	ш		7	Facet	מכנו	10	4.73669	00001	4.28926	4.58926	A DODE	7.50500	4.08790	4 36250	1.00233	4.36259	4 49650	7 70000	4.73009	4.70000	4 7000	2000	4.30033	
	٥						0.84115	0 74767	10/4/0/	0.697/9	0 44377	4 01010	8/007.1	1.84067	1 04074	4/010.1	2.00617	0 84115	0.01	1.15/86	1.15786	1 56097	+0000c-	
(٥						-1.58677	-1 81884	1 70700	1./0/30	-2.50841	2 50500	20070	-3.19384	-3 13482	30.101.0	-3.01193	-1 58677	1 04604	1.34031	-1.94631	-2.50111		tona
a		-		racet	α	0,000	4.63010	4.68429	4 67878	20.00	4.22223	4 0585B	100000	4.4041/	4.48187	4 00400	4.02128	4.83616	4 70136	001017	4.79136	4.69056		
~						t trivo	- H.S.	Point 2	Point 3		Point 4	Point 5	Doint	0110	Point 7	Point 8	210	Point 9	Start of scan line	Middle of retation	ייוומוס טו זטומווטוו	End of scan line		
	75	1	9/	77	5	78	0,	2	8	8		8	 83	10	5	82	ä	3 18	2	88	g	3 8	3	

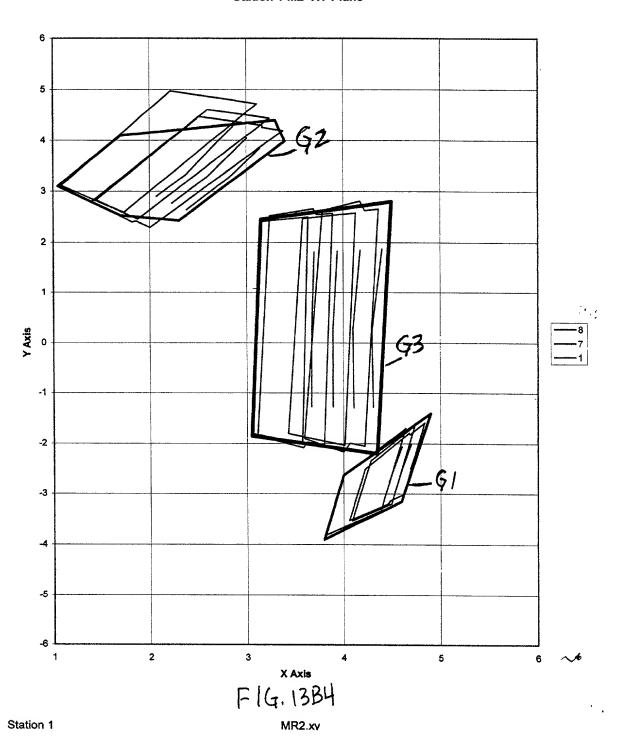
MR2

303/335

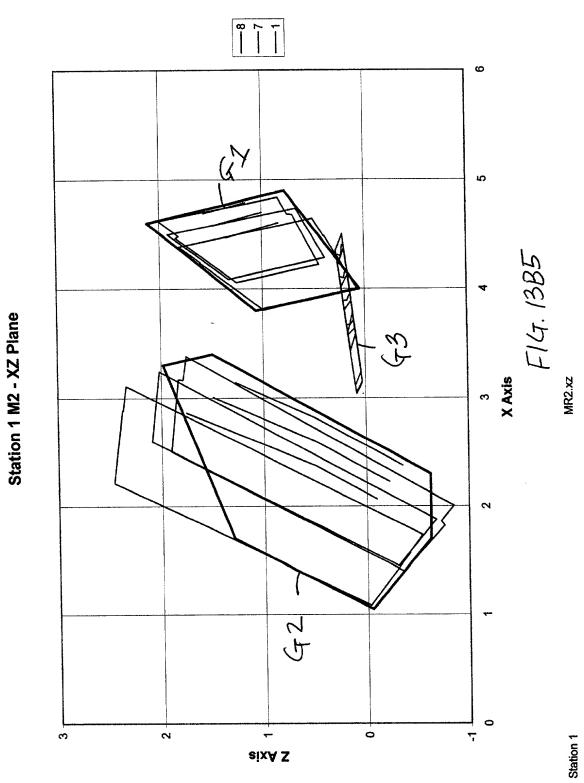
M X 7 7 Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y	Facet	4	3.63985 2.49916 0.0973	2.46924		_		Ĺ	Ĺ	1.99474 0.16470		Ĺ			
	Facet	7		L	2.46924	2 40274	79742	3323	3323	474	916	404	297	076	
	Facet	7	3.63985	2			7	٠	6	-1.95	2.49	1.80404	0 29297	-1.27076	
		╁		3.48464	3.48464	3,13971	3.03925	3.40752	3.40752	3.57430	3.63985	3.70025	3.67474	3.66999	
	╁		0.13136	0.10897	0.10205	0.04122	0.09718	0.16749	0.17186	0.19711	0.13136	0.15114	0.17070	0.19685	-
			2.57127	2.54596	2.66161	2.51989	-1.84718	-2.08109	-1.96992	-2.02808	2.57127	1.82246	0.27090	-1.26997	
5	Facet	m	3.89207	3.72893	3.69351	3.24144	3.10957	3.58373	3.62849	3.80192	3.89207	3.94222	3.89313	3.89234	f
			0.16456	0.14541	0.14522	0.09002	0.14108	0.20449	0.20460	0.22675	0.16456	0.18369	0.20000	0.22718	
F			2.57939	2.54937	2.55291	2.46410	-1.80124	-1.97527	-1.97181	-2.03180	2.57939	1.84317	0.25000	-1.28789	
E	Facet	2	4.13039	3.98981	3.98888	3.58353	3.42901	3.86105	3.86230	4.01328	4.13039	4.17745	4.10000	4.10701	
۵			0.19632	0.17673	0.16686	0.11577	0.16625	0.22737	0.23359	0.25597	0.19632	0.21487	0.22786	0.25535	
o			2.65376	2.62785	2.80928	2.62732	-1.89846	-2.16622	-1.99138	-2.04815	2.65376	1.87032	0.23013	-1.28070	
<u> </u>	Facet	-	4.36645	4.22328	4.17479	3.78746	3.59706	4.00140	4.06710	4.22016	4.36645	4.40361	4.29670	4.30920	
٨			Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Start of scan line	Middle of rotation	End of scan line	
								ı	į	- 1	- 1		- 1		

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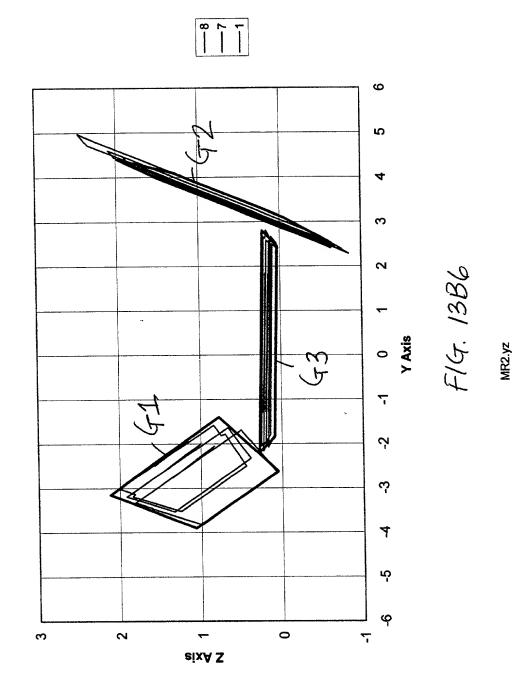
Station 1 M2- XY Plane







Station 1 M2 - YZ Plane

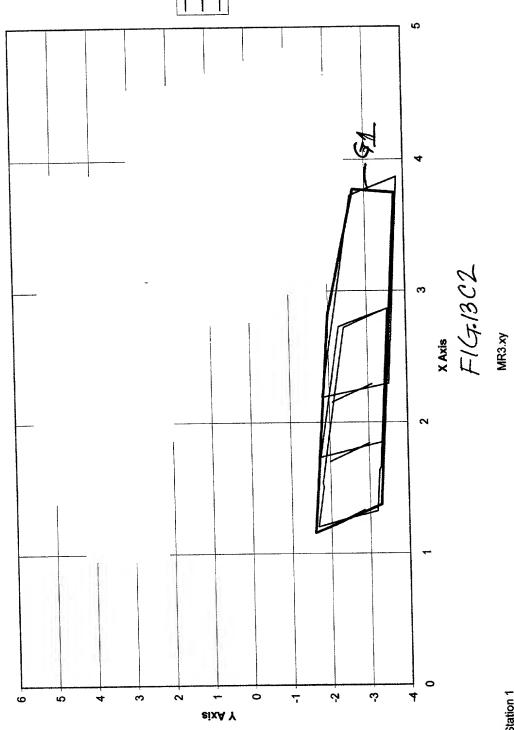


т	-	_	S	_ T	ω	6	41	_	6	ÇI	io l	QI.	CI.	ला	\neg
ا ا			0.33975	0.28421	0.27888	0.06549	0.98584	1.57321	1.57029	1.72352	0.33975	0.59022	0.59022	1.36142	
_			-1.81295	-1.97962	-1.97622	-2.62604	-3.82116	-3.60007	-3.59386	-3.53522	-1.81295	-2.08486	-2.08486	-3.10310	
I	Facet	12	2.18607	2.50076	2.50470	3.72651	3.86534	2.62296	2.61924	2.29384	2.18607	2.15170	2.15170	2.29073	
១			0.57847	0.52600	0.52600	0.39129	1.39541	1.73579	1.73579	1.87021	0.57847	0.80000	0.80000	1.56667	
т.			-1.76256	-1.90575	-1.90575	-2.27331	-3.57274	-3.43596	-3.43596	-3.38194	-1.76256	-2.00000	-2.00000	-3.01433	
ш	Facet	9	1.73454	2.01252	2.01252	2.72609	2.87153	2.13984	2.13984	1.85089	1.73454	1.70000	1.70000	1.84105	
۵			0.83287	0.77007	0.73570	0.50283	1.36131	1.91900	1.90105	2.04127	0.83287	1.03659	1.03659	1.75349	
ပ			-1.67340	-1.82194	-1.80077	-2.40114	-3.52973	-3.29877	-3.25853	-3.19447	-1.67340	-1.90430	-1.90430	-2.85916	
В	Facet	80	1.20537	1.50717	1.53373	2.71992	2.86809	1.66004	1 63442	1.32257	1.20537	1.19058	1.19058	1.33110	
A			Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Start of scan line			
	76	77 G1	78	79	08	120	8	8 8	28	. K	86	87	æ	68	06

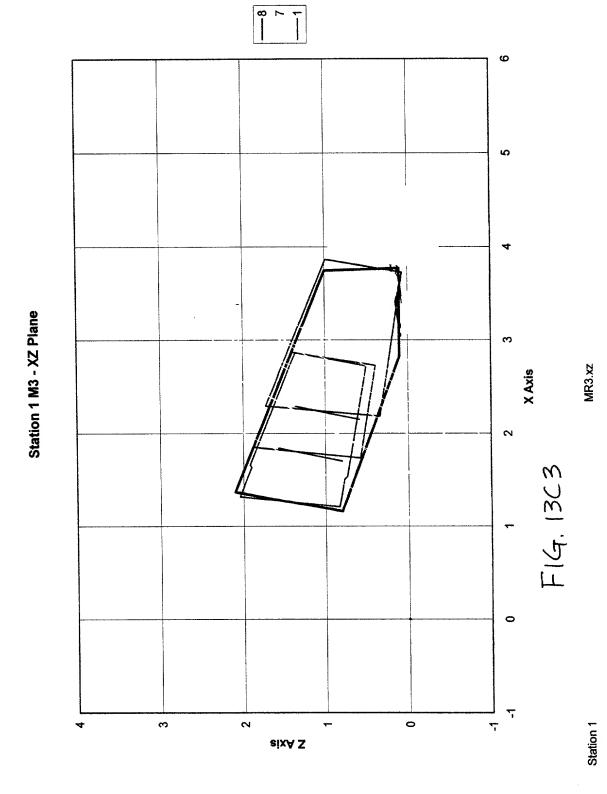
F19.13C

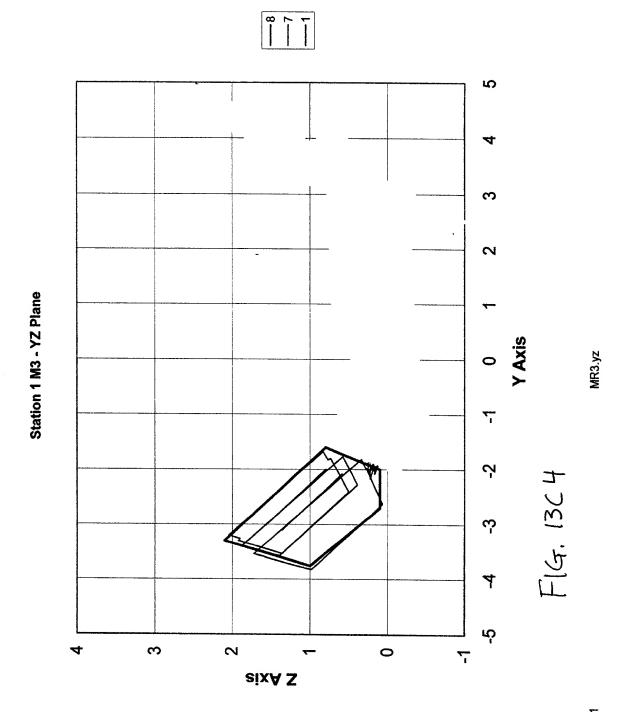
Station 1 M3- XY Plane

309/335



Station 1





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		ŧ.			2			9		
		Facet			Facet			Facet		
		80			10			12		
	Point 1	1.20537	-1.67340	0.83287	1.73454	-1.76256	0.57847	2.18607	-1.81295	0.33975
1	Point 2	1.50717	-1.82194	0.77007	2.01252	-1,90575	0.52600	2.50076	-1.97962	0.28421
1	Point 3	1.53373	-1.80077	0.73570	2.01252	-1.90575	0.52600	2.50470	-1.97622	0.27888
1	Point 4	2.71992	-2.40114	0.50283	2.72609	-2.27331	0.39129	3.72651	-2.62604	0.06549
1	Point 5	2.86809	-3.52973	1.36131	2.87153	-3.57274	1.39541	3.86534	-3.82116	0.98584
1	Point 6	1.66004	-3.29877	1.91900	2.13984	-3.43596	1.73579	2.62296	-3.60007	1.57321
1	Point 7	1.63442	-3.25853	1.90105	2.13984	-3.43596	1.73579	2.61924	-3.59386	1.57029
	Point 8	1.32257	-3.19447	2.04127	1.85089	-3.38194	1.87021	2.29384	-3.53522	1.72352
4	Point 9	1.20537	-1.67340	0.83287	1.73454	-1.76256	0.57847	2.18607	-1.81295	0.33975
	Start of scan line	1.19058	-1.90430	1.03659	1.70000	-2.00000	0.80000	2.15170	-2.08486	0.59022
	Middle of rotation	1.19058	-1.90430	1.03659	1.70000	-2.00000	0.80000	2.15170	-2.08486	0.59022
1	End of scan line	1.33110	-2.85916	1.75349	1.84105	-3.01433	1.56667	2.29073	-3.10310	1.36142
1										

F14. 13D1

MR4

S					2 12116	10000	2.23831	2.23831	2.45421	011010	2,40410	2.28393	00000	2.20333	2.17551	2 12116	2.000	2.12639	2.12659	2.13240		
œ					0 60393	20000	0.51160	0.51160	0.34144	00,140	B) /7:1:	-1.47056	0.000	1.4/036	1.57861	COCUS	2000	00000	0.0000	-0 64218		
σ			Facet	9	A 42086	4.45000	4.21826	4 21826	3 84486	200	3.73310	4.13935		4.13930	4.32687	A ADORA	4.45000	4.41147	4.41147	CA10A		
۵			-		2 00054	2.000	2.13458	2.13512	2 49515	2000	2.51300	2.19018		2.18324	2.08685	13000	Z.U2021	2.03027	2.03027	0.02470		
0					0.55000	0.00003	0.48153	0.48704	0.94047	100	-1.46848	-1 90374		1.79844	-1.90337	00000	0.00003	0.0000	00000	O 90257	10000	
z			Facet	10	A EDADA	10.4 10.4	4 39766	4,39672	S TTANE	21/10	3.74166	4 20150	3	4.30312	4.48021	10701	10.0	4.57806	4.57806	A 57030	20000	
Σ					4 00400	1 32423	2.02852	2.02852	400400	2.27.007	2.29225	208019	2000	2.08019	199174	00,00	1.92423	1.93105	1.93105	1 005007	1.00.00	
_					١	1	0.48315	0.48315	000400	0.2/200	-1.92124	2 17143	2	-2.17143	2 27578		0.5/105	0.0000	00000	4,000	2	
¥		1	Facet	4	1 204 60	ĺ		4 58109	ļ	1			-		١	١	4.76146	4.74966	4.74966	7 4000	4.76001	
-					. 0000	1.86881	1.97394	1 00056	ľ								-	1.88000	-	ľ		
-						_	0.45660		1		•	ļ	1	ľ	1	١		0.00000		ı	-1.09333	
I			Facel		3	4 85731	4.67548	A EROSO	1.0000	4.09186	4.08721	0,10	4.30410	4 ACKER	4 70502	4,700	4.85731	4.83795		4.001.00	4.85432	
C	,					1.81997	1 91816	1	١	2.22561		1	4004	1 94701	1		1.81997	1.82778	1 00770	07/30	1.80788	
3						0.55167	0.46655	0,111	04/110	0.20212	-1 86717	1001	-2.17652	917719	20000	57,7003	0.55167	00000	00000	0.0000	-1,22889	
-	٥		Food	Caroli		4.94178		3	1	•	ľ	1	•	ľ	1	`	•	1	00000	`	1	
	2					1,76314	1 96123	20000	1,8836U	2.17873	7 +0347	4.0	1.91714	4 00105	07100.1	- 1		1		1.1/442	1.75129	
ļ	ر			-		0.52476	BCNANO	0.44460	0.66283	0.28599		20-0-1				-2.13965	0.52476	00000	00000	0.0000	-1.14492	
-	9			-acet	-	5.04006			4.83173	4.32129		-		04200		4 98278	5.04006			5.02090	5.06055	
						Point 1	Carioo	LOUILE	Point 3	Point 4	1	CILIO	Point 6		- Louis	Point	Polot	Chort of eners line	2000	widdle of rotation	End of scan line	
	4																-	Cho	90	MIC	ä	
		ũ	2 (9	763	æ	210	2	6	-		7	e.		4	ž,	4	1	,		đ	le

F1G. 14A1

5 -0.08994 -0.12337 -0.18182 -0.18182 -0.18182 -0.68674 -0.68974 -0.6894 -0.6894 -0.04380	0 37020
0.044891 0.37322 0.37322 0.37322 0.24084 1.174831 1.74831 0.044891 0.00000	-1.09574
0 6 6 6 9 3.52125 3.22508 3.22508 3.10607 3.47166 3.47166 3.58837 3.58837 3.58837 3.58887	3.67805
0.02505 0.00784 0.00933 0.10566 0.70794 0.70794 0.70794 0.15325 0.15325	0.56428
0.00000	1.40033
39959955	/2000
0.0044 0.0044 0.0044 0.0044 0.00486 0.91486 0.91486 0.97193 0.007193 0.007193 0.007193 0.007193 0.007193 0.007193 0.007193 0.007193 0.007193	L
0.44954 0 0.037427 0.037427 0.037427 0.037427 0.037427 0.020352 0.020352 0.020352 0.020352 0.020352 0.000000	
4 4 6 6 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
0.17770 0.11507 0.05234 0.05234 0.05234 0.05286 0.05286 0.05286 0.05286 0.05286 0.05286 0.05286 0.05286 0.05286 0.05286 0.05286	
0.44459 0.37132 0.4638 0.20147 -2.24807 -2.33743 -2.33743 0.44459 0.00000 0.000000	
Facet 3 4.319478 4.319478 4.28911 3.79612 3.79612 4.41150 4.500000 4.500000 4.500000 4.500000 4.50000 4.50000 4.50000 4.50000 4.500000 4.50000 4.50000 4.50000	
0.22157 0.19944 0.19871 0.9825 0.98272 0.98270 1.04484 0.22157 0.34528 0.34528	
P F F F F F F F F F F F F F F F F F F F	
Facet Facet 4.6503 4.50102 4.17490 4.17490 4.17490 4.66490 4.66490	
0.26978 0.24652 0.24652 0.15299 0.06926 1.02567 1.02567 1.02567 0.26978 0.26978 0.38908 0.38908	
C 0.44237 0.38963 0.38963 0.22763 0.22763 0.22763 0.22763 0.22763 0.22763 0.4237 0.04237 0.00000 0.00000 0.00000 0.00000 0.151167 0.04237 0.000000	
2498 2498 2719 2719 2719 3842 361	$\frac{1}{2}$
Point 1 Point 2 Point 3 Point 6 Point 6 Point 6 Point 6 Point 6 Point 9 Point	
Stear Stear	
100 03 03 03 03 03 03 03 03 03 03 03 03 0	3

F14. 14B1

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S			-0.08994	-0.12337	-0.12337	-0.18182	0.36043	0.48974	0.48974	0.56463	-0.08994	0.04380	0.04380	037020	
æ			0.44891	0.37322	0.37322	0.24084	-1.64117	-1.74831	-1.74831	-1.81036	0.44891	0.0000	0.0000	-1.09574	
σ	Facet	9	3.52125	3.32508	3 32508	2.98199	3.10607	3.47166	3.47166	3.68342	3,52125	3 56687	3.56687	3.67805	
۵.			0.02505	-0 00784	-0 00933	-0.10566	0.50856	0.70794	0.70712	0.77533	0.02505	0.15325	0.15325	0 56428	
0			0.44834	0.37385	0.37803	0.15541	-2.00085	-2.15630	-2.15188	-2.20429	0.44834	0.0000	0.0000	-1.40033	-
z	Facet	9	3.93952	3.74647	3.74516	3.17535	3.29187	3.86517	3.86651	4.06339	3.93952	3.96553	3.96553	4.08537	
Σ	-		0.12583	0.10044	0.10044	0.04285	0.78626	0.91466	0.91466	0.97193	0.12583	0.25305	0.25305	0.75509	
T		-	0.44954	0.37427	0.37427	0.20355	-2.41913	-2.52955	-2.52955	-2.57881	0.44954	0.0000	000000	-1.71403	
Ж	Facet	4	4.30775	4 14124	4,14124	3.76359	3.89193	4.25097	4.25097	441114	4.30775	4.32901	4.32901	4.47185	
ſ			0.17770	0.15017	0.11104	0.05234	0.74455	0.92926	98906:0	0 96529	0.17770	030000	030000	0.74880	
-	-		0.44459	0.37132	0.48536	0.20147	-2.24907	-2.45821	-2.33743	-2.38443	0.44459	-0.00001	0.00000	-1.53817	
н	Facet	С	4.49179	4.31949	4.28911	3.79612	3.90727	4.37431	4.41150	4.57811	4.49179	4.50000	4.50000	4.62188	
6			0.22157	0.19944	0.19626	0.13371	0 83855	0.99272	0.99200	1.04484	0.22157	0.34528	0.34528	0 82987	
F			0.44811	0.37345	0.37701	0.15472	-2.32513	-2.46863	-2.46486	-2.51341	0.44811	0.0000	0.0000	-1,65515	
E	Facet	2	4.65503	4.50103	4.50022	4.04652	4.17480	4.59519	4.59627	4.74099	4.65503	4.68490	4.66490	4 80210	
0			0.26978	0.24652	0.18746	0.15299	0.84926	1.02567	0.99034	1.04332	0.26978	0.38908	0.38907	0.82998	
၁			0.44237	0.36963	0.54611	0.22763	-2.24588	-2.49257	-2.30530	-2.35176	0.44237	0.00000	0.00000	-1.51167	
8	Facet	1	4.82498	4.66874	4.62719	4.18842	4.29176	4.69167	4.74716	4.89443	4.82498	4.82442	4.82442	4.94361	
Y			Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Start of scan line	Middle of rotation	End of scan line	
	106	107 G3	108	109	110	111	112	113	114	115	116	117	118	119	120

F1G. 14C1

	,				0.08994	-0.12337	40004	4.16357	-0.18182	0 36043		0.48974	0.48974	000000	0.30463	-0.08994	0.04380	0.04380	00000	0.3/020		
_	-				0.44891	0 37322	100	0.3/322	0.24084	1 54117	5	1.74831	-1,74831	0000	-1.81036	0.44891	000000	00000	2000	-1.085/4	ŀ	
•	,	Facet	4	2	3.52125	2 22508	0.0000	3.32508	2,98199	20007	3.1000	3.47166	3 47166		3.68342	3.52125	3.56687	2 56697	20000	3.67805		1
					0.02505	A0700.0	2000	-0 00833	-0.10566	010010	0.0000	0.70794	0.70712	1	0.77533	0.02505	0.15305	0 15225	0.1000	0.56428		
ļ	2				0.44834	300400	00/00	0.37803	0.15541	ĺ		'	١.	1	•	0.44834	١.			-1,40033		
	z	Facet		ń	3 93952	74047	3 /404/	3,74516								3 93952				4.08537		
	Σ		-		0.12583			0.10044		١		ļ	ļ			0.12583		0.2000		0.75509		
	_				ľ	5		-			·	ľ			ľ	0.44954			00000	-1 71403	l	
	¥	Paret	1909	4	A 20,77E								1			A 2077E			4,32901	447195		
	_					-						L	1	_		0.47770			00000		1	_
	-			_	ľ						ľ		Ì		l	2000					1	
	,		racer	_		•	ľ	١								11070.4				-		
	٥	٩			1				١			1			1	1.0404		_	L		┙	_
		-	Ŧ			_	0.37345				l	1	`	ľ	1	-2.51341	1	0.00000			0 -1.65515	
		-	Facel			8 4.65503	4 50103		4.50022	4 0465		4.1740	7 4.5951	Ĺ	1000	2 4.74099	8 4.6550	4.6649	4 66.40	2	8 4.80210	
	-	٥				7 0 2697	١	1			ı		7 1.0256	,000	200		0.2697	06860	l	Į	7 0.8299	
		S	12		-	0.44237	L	ı			l		37 -2.49257		1		0.44237		l	1	31 -1.51167	
		80	Facet			4.82498			_			1	6 4.69167			8 4.89443		4.82442		•	4.94361	
						Point 1		LOWIT Z	Point 3	Point A	5	Point 5	Point 6		Point	Point 8	Point 9	Start of scan line		iddle of rotation	End of scan line	
		∢																Ű		¥	Ü	
			9	3	07/63	9	31:	<u> </u>	40			12	13	2	14	15	16	2	-	<u>8</u>	19	-

F19. [4D]

317/335

				5.95933	6.07464	6.07461	6.43794	7.12079	6.90578	6.90349	6.83568	5.95933	6.03397	6.10220	6.68100	
ח				5.95	6.07	6.07	6.43	7.12	9.90	9.90	6.83	5.95	9.03	6.10	9.9	
_				-0.71341	-0.80763	-0.80078	-1.10154	-4.40584	-4.56037	-4.55423	-4.60159	-0.71341	-1.19501	-1.52325	-3.93033	
I	9	Facet	12	5.57831	5.42747	5.42531	4.95130	4.94319	5.33088	5.33250	5.45432	5.57831	5.61623	5.61481	5.48105	
g				5.84633	5.95052	5.95052	6.17433	6.82654	6.69722	6.69722	6.63764	5.84633	5.91380	00000.9	6.50794	
ш				-0.72344	-0.81564	-0.81564	-1.01369	-4.30055	-4.39100	-4.39100	-4.43267	-0.72344	-1.19815	-1.62630	-3.84809	
ш	2	Facet	10	5.75912	5.62511	5.62511	5.33722	5.37166	5.60403	5.60403	5.71110	5.75912	5.80609	5.80862	5.72650	
٥				5.72516	5.83575	5.83618	6.18430	6.76631	6.55370	6.53803	6.46837	5.72516	5.79678	5.89717	6.34386	
O				-0.72592	-0.82205	-0.77284	-1.10363	-4.23150	-4.38204	-4.33627	-4.37550	-0.72592	-1.21758	-1.72998	-3.76722	
В	-	Facet	8	5.95032	5.80752	5.79099	5.35054	5.44406	5.82668	5.83655	5.95867	5.95032	5.99623	6.00363	5.95828	
A				Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Start of scan line	Middle of rotation	End of scan line	
	75	76	77 G1	78	67	80	81	83	83	84	85	86	87	88	89	06

F19. 15A1

_		,		1	1 :-	1 2			, .		,				
7			6.83568	6.90349	6.90578	7.12079	6.43794	6.07461	6.07464	5.95933	6.83568	6.68100	6.10220	6.03397	
			4.60159	4.55423	4.56037	4.40584	1.10154	0.80078	0.80763	0.71341	4.60159	3.93033	1.52325	1.19501	
Ŧ	Facet	=	5.45432	5.33250	5.33088	4.94319	4.95130	5.42531	5.42747	5.57831	5.45432	5.48105	5.61481	5.61623	
9			6.63764	6.69722	6.69722	6.82654	6.17433	5.95052	5.95052	5.84633	6.63764	6.50794	6.00000	5.91380	
u			4.43267	4.39100	4.39100	- 4.30055	1.01369	0.81564	0.81564	0.72344	4.43267	3.84809	1.62630	1.19815	
Ш	Facet	o	5.71110	5.60403	5.60403	5.37166	5.33722	5.62511	5.62511	5.75912	5.71110	5.72650	5.80862	5.80609	
Ω			6.46837	6.53803	6.55370	6.76631	6.18430	5.83618	5.83575	5.72516	6.46837	6.34386	5.89717	5.79678	
ပ			4.37550	4.33627	4.38204	4.23150	1.10363	0.77284	0.82205	0.72592	4.37550	3.76722	1.72998	1.21758	
В	Facet	7	5.95867	5.83655	5.82668	5.44406	5.35054	5.79099	5.80752	5.95032	5.95867	5.95828	6.00363	5.99623	
A			Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Start of scan line	Middle of rotation	End of scan line	
	-	92 G2	93	94	92	9	7	8	6	100	11	102	33	04	05
L	91	6	9	0	6	96	97	86	66	2	101	7	103	12	l۲

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_	_		_		_	110	57		Ta	e T	~	Te	ni	<u>~</u>	i Fi	0	1	-1:	=1	_	Te	• T		
v				-	5,2654	F AOGO	500	5.4069	E SEAT	1000	5.2366	1000	200	4.9885		4.8461	5 2854		5.2112	5,21120	A 0.47.4	1.01		
α					0.34512	90790	0.40/00	0.28708	O CORAG	5	-3.06048	500	-3.12302	3 1290	-	3.16838	0 24512	1	0.00006	0.0000	20100	C.500455		
c	,	Facet	4	5	6.87159	0 04704	0.01	6.81701	0 704 40	0,72143	6 22148	1000	6.28421	6 2945 t		6.32024	0 07150	000	6.82144	6.82143	,,,,,	5.44631		
۵	-				4.74102	02000	4.80003	4.88784	10000	5.31604	A 92441		4.49196	4 40112	7.101.15	4.34377	41100	4.74106	4.69690	4 69679		4 35990		
_	7				0.35981		030016	0.30354	90,00	0.12496	ONOR C.	2	-2.92071	0.44.0	61/16.7	-2.95743	0000	0.3390	0.00007	00000	2	-2.26763		
-	2	Facet		n	7 0250R	2000	6.97894	6 97921		6.81288	D SCTAR	2	8.47664	0 47750	0.4//20	6.51493	00100	oncen'/	8.97902	6 07001	200	6.64346		-
-	¥				4 26573	2	4.38726	A 28726	2	4.66313	A 00774	1,103.	3.96692	00000	2000	3 84679		4.26573	4.22381	4 22202	7.56.ME	3.85384	-	
	د	-			0.25054	0.000	0.29192	00100	0.60108	0.15884	* 00000	5.337.5	-3.02659	0.000	3.02639	3.08618	2	0.35054	-0.00002	00000	3	-2,39464	-	
	~	Favor	1000	4	7007+ 7	/00/1./	7 13030	4 40000	3	20005		6,55131	661699		6.61699	S BAG13	0.000	7.17887	7 12389	00007	1,12303	8.77390	l	
-	-,				4 000 445	4.03443	4 16642	70407	4.07	4 57132	1	4.1/339	3 80174	3	3,78090	204076	3.04073	4.03445	4 00001	90000	4.0000	3 66987		
	_				00000	0.36233	0.30300	20000	0.39685	0 16475	2	-2.72069	2 80507	F.0000	-2 79811	00000	-2.830U3	0.36293	70000	1	00000	2014504	+	_
	_	ŀ	18081	~	2 000	7.25212	7 20014	1000	7.20860	7 64030	3000	6,61109	90000	0.03500	8 71818	000	6.75033	7.25212	24004.7	1.156-10	7.19245	6 87855		_
	c	,				3.81936	2 02080	0.0000	3.93374	A 00007	4,2002.4	3.83654	100000	\$.00 0.00	3 51 128	2000	3.40022	3.81936	010010	3.10346	3,78335	2 44071		
		+				0.35437	0 206.40	0.53040	0.29830	40004	0.12267	-2.84072	10000	/0/cs:7-	00000	20100	-2.99436	757437	2000	0.0000	000000	Charce	2.31040	
	-	1	Facet		7	7.31635	04040	010/7/	7.27046		4.13404	6,69289	20000	6.76909	CAOCT	2	6.79682	7 24535	200	7.25830	7 25882	00000	0.92433	
	-	4				3.60327	0000	3.72290	3.76848		4.09695	3 69330	2	3.36219	9 4000	3.33243	3.21407	200030	9.000	3.57345	1 57301	2	3.234/2	
	ŀ	٥	_			0.38621		0.30677	0.45214		0.19089	2 71104	F. 1101	-2.91744	00000	.2./0323	-2.80469	100000	7,3004	0.00361	00000	00000	-2.114/3	
	•	n	Facet		-	7 39483	3	7.33669	7 35095	3	7.19969	0 76469	3	6.82335	00,000	6.86136	6.89054	00,00	20405.	7.32381	7 2020E	1.0000	1.01777	_
	-	-				Point 1	155	Point 2	Point 3	2	Pont 4	Solve E	2	Point 6		Point 7	Point 8		TOIL OF	Start of scan line	Adding of solution	O LOIGIOU	End of scan line	
		<													-					Start	Madella	MINOUN	Ē	
					07 G3							-												
		_	ş	1	107	3	3	8	1	3	111	ľ	7	113	2	=		2	116	117	[•	119	

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ſ				3.23954	3.28909	3.28633	3.44252	6.68618	6.69231	6.68785	6.68904	3.23954	3.45169	3.90711	6.27163	
_				-3.02504	-3.07489	-3.07385	-3.22999	-4.94977	-4.83496	-4.83220	-4.79243	-3.02504	-3.12422	-3.35150	-4.57920	
I	3	Facet	12	3.24420	3.16721	3.16395	2.92561	4.61719	5.13524	5.13464	5.31142	3.24420	3.41287	3.71220	5.05851	
5				3.24153	3.28365	3.28365	3.37382	6.48702	6.49349	6.49349	6.49668	3.24153	3.42658	4.00000	6.12962	
4				-2.92223	-2.96298	-2.96298	-3.05022	-4.70247	-4.63666	-4.63666	-4.60417	-2.92223	-3.00957	-3.30000	-4.41413	
ш	2	Facet	10	3.69818	3.63983	3.63983	3.51489	5.13129	5.43660	5.43660	5.58735	3.69818	3.84166	4.20000	5.37598	
۵				3.18258	3.23834	3.21628	3.40306	6.41511	6.42964	6.39515	6.39317	3.18258	3.42532	4.08689	5.99609	
ပ				-2.79379	-2.84817	-2.83938	-3.01427	-4.63324	-4.52709	-4.50585	-4.46565	-2.79379	-2.91167	-3.25182	-4.26040	
8	-	Facet	8	4.09124	4.01214	3.98793	3.75453	5.22942	5.73352	5.72839	5.89808	4.09124	4.26503	4.65630	5.66800	
A				Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Start of scan line	Middle of rotation	End of scan line	
	75	76	77 G1	78	67	08	- E	88	83	28	85	98	87	88	68	G

F14. 15B1

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	Ţ-	_	_	1_		T	تنس ا	ı a	~~	I.e	1-4	T-	7		Τ=	
 -			-	6.68904	6.68785	6.69231	6.68618	3.44252	3.28633	3.28909	3.23954	6.68904	6.27163	3.90711	3.45169	
				4.79243	4.83220	4.83496	4.94977	3.22999	3.07385	3.07489	3.02504	4.79243	4.57920	3.35150	3.12422	
I		Facet	=	5.31142	5.13464	5.13524	4.61719	2.92561	3.16395	3.16721	3.24420	5.31142	5.05851	3.71220	3.41287	
9				6.49668	6.49349	6.49349	6.48702	3.37382	3.28365	3.28365	3.24153	6.49668	6.12962	4.00000	3.42658	
щ				4.60417	4.63666	4.63666	4.70247	3.05022	2.96298	2.96298	2.92223	4.60417	4.41413	3.30000	3.00957	
ш		Facet	6	5.58735	5.43660	5.43660	5.13129	3.51489	3.63983	3.63983	3.69818	5.58735	5.37598	4.20000	3.84166	
Q				6.39317	6.39515	6.42964	6.41511	3.40306	3.21628	3.23834	3.18258	6.39317	5.99609	4.08689	3.42532	
ပ				4.46565	4.50585	4.52709	4.63324	3.01427	2.83938	2.84817	2.79379	4.46565	4.26040	3.25182	2.91167	
Ф		Facet	7	5.89808	5.72839	5.73352	5.22942	3.75453	3.98793	4.01214	4.09124	5.89808	5.66800	4.65630	4.26503	
4				Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Start of scan line	Middle of rotation	End of scan line	
	06	91	92 G2	93	94	95	96	26	86	66	100	101	102	103	104	105

F14. 15B2

S				5.26544	5.40695	10001	0.40050	5.65479	5 23666	00000	9000	4.98858	4 84610	E DEKAA		5.2112.0	5.21120	4 84743		
-		†		0,34512	0.28708	00000	0.28/08	0.18544	SAUGUE.		-3.12902	-3.12902	-3 16838	0.345.0	1	900000	0.00000	25 KOA25		
0	Facel	1	P	6.87159	E 81701		6.81 /01	6.72143	R 22148	0.44	6.28421	6.28421	A 32/124	0 07150	0.07	6.82144	6.82143	PERMY A		
۵				4.74102	A SPECO	2000	4.68784	531804	4 00 441	- 05	4.49196	4.49112	4 34377	2011	4.74106	4.69680	4.69679	4 26000	4.0000	
0			_	0.35981	200016	2	0.30354	0.12498	040000	-K.000-10	-2.92071	91719	27.743	2 100.7	0.33961	0.00007	0.0000	0 00700	2,40103	
z	Fanat	ava -	i	7.03508	100700	0.070	6.97921	681288	272.00.0	0.30/40	6.47664	6.4775B	D E4 403	0.01490	AUCCU.	6.97902	6 97901	97070	0.04340	
Σ				4 26573									200000			4 22381		ľ	3.85364	
ر				O SKOKA	5000		_	0.15884		1	Ì		0.0000		0.35054	20000	00000	0.0000	-2.39464	
×	200	racer	4	7 17887]		7,13030	ľ			6,61699	l		٦	7.17887	7 12389	ľ		6.77390	
-				ANSAAR		•		4 57199	1				1			ľ	2000		3 66987	
-				00000		0.30350		1	ŀ		L		-2.79811				00000		-2.14504	
7		Face		ľ		_	7 20865										7.19240		1 6.87855	
-	إ					_	Ĺ	2000			L	1	3.51128				3/0344	_	3.4107	
-	-	_		1		0.29546		١	1	ľ	a de la constante de la consta		3 -2.95493				1	00000	9 -231840	
	4	Facet			_	7.27018										1	5 7.25690		Ĺ	
-	2		-	_			Ĺ	١			1								3 3.23472	
	2	_			3 0.36621	0 20877	1				١		6 -2.76529	ı	1		_	000000	ľ	l
	8	Facet			7.38483	7 33660			7.19969	L			7 6.86196		1			7.32325	ľ	١
					Point 1	China	5	Point	Point 4	Atmoo	CHOL	Point 6	Point 7	Point 8		LODE &	Start of scan line	Middle of rotation	End of scan line	
	∢																ซึ่	Ž	u	
			3	107 G3																

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_					3.23954	3.28909	3.28633	3.44252	6.68618	6.69231	6.68785	6.68904	3.23954	3.45169	3.90711	6.27163	
_																	
_					-3.02504	-3.07489	-3.07385	-3.22999	-4.94977	-4.83496	-4.83220	-4.79243	-3.02504	-3.12422	-3.35150	-4.57920	
	6	5	Facet	12	3.24420	3.16721	3.16395	2.92561	4.61719	5.13524	5.13464	5.31142	3.24420	3.41287	3.71220	5.05851	
	-																
ഗ					3.24153	3.28365	3.28365	3.37382	6.48702	6.49349	6.49349	6.49668	3.24153	3.42658	4.00000	6.12962	
u.					-2.92223	-2.96298	-2.96298	-3.05022	-4.70247	-4.63666	-4.63666	-4.60417	-2.92223	-3.00957	-3.30000	-4.41413	
ш		2	Facet	10	3.69818	3,63983	3.63983	3.51489	5.13129	5.43660	5.43660	5.58735	3.69818	3.84166	4.20000	5.37598	
_	,				3 18258	3.23834	3.21628	3.40306	6.41511	6.42964	6.39515	6.39317	3.18258	3.42532	4.08689	5.99609	
C	,				-2 79379	-2 84817	-2 83938	-3.01427	-4.63324	-4 52709	-4 50585	-4 46565	-2.79379	-2.91167	-3 25182	-4.26040	
α	2	-	Facet	α	4 00124	4 01214	3 98793	3.75453	5 22942	5 73352	5 72839	5 89808	4.09124	4.26503	4 65630	5.66800	
V	¥				Doint 1	Doint	Point 3	Point 4	Point 5	Doint 6	Doint 7	S triod	Point 9	Start of scan line	Middle of rotation	End of scan line	
-		75	76	12	5 2	0 6	2 8	3 2	5 6	300	3 3	40 0	2 8	3 6	ò	8 8	06

F14. 15C1

<u>_</u>	Ţ		6 68904	6 68785	6 69231	6 68618	3 44252	3 28633	3 28000	3 23054	6 68904	6 97163	3 90711	2 45160
_			4.79243	4 83220	4.83496	4 94977	3.22999	3 07385	3 07489	3 02504				
I	Facet	11	5.31142	5.13464	5,13524	4.61719	2.92561	3.16395	3 16721	3 24420				
5			6.49668	6.49349	6.49349	6.48702	3.37382	3.28365	3 28365	3.24153	6.49668	6.12962	4.00000	
<u> </u>			4.60417	4.63666	4.63666	4.70247	3.05022	2.96298	2 96298	2.92223	4.60417	4.41413	3.30000	3 00957
Ш	Facet	6	5.58735	5.43660	5.43660	5.13129	3.51489	3.63983	3.63983	3.69818	5.58735	5.37598	4.20000	3.84166
Q			6.39317	6.39515	6.42964	6.41511	3.40306	3.21628	3.23834	3.18258	6.39317	60966.9	4.08689	3.42532
၁			4.46565	4.50585	4.52709	4.63324	3.01427	2.83938	2.84817	2.79379	4.46565	4.26040	3.25182	2.91167
8	Facet	7	5.89808	5.72839	5.73352	5.22942	3.75453	3.98793	4.01214	4.09124	5.89808	5.66800	4.65630	4.26503
A			Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Start of scan line	Middle of rotation	End of scan line
	- 14	92												
	91	92 G2	93	8	8	8	6	88	66	9	힏	102	<u>8</u>	104

F14. 15C2

			5.26544	5.40695					1	4.98858	Ī			5.21120		L		
			0.34512	0.28708	0.2870	1000	0.10	-3.06048	3.1290	-3.1290	-3.1683		0.0000	0.0000	2 5043			
,	Facet	8	6.87159	6.81701	004404	101100	6.72.143	6.22148	6.28421	6.28421	6.32024	6.87159	8.82144	6 82143	6 44831			
			4 74102	4 90550	1000	4.80/04	5.31804	4 92441	4.49196	4.49112	4 34377	474102	4 69680	4 60670	1.0500	4.00000		
-			0.35081	910000	0.000	0.30354	0.12498	-2 80040	-2.92071	91719	0 05743	0.35081	200000	3000	0.0000	-2.26/03		
z	Facet	4	1 00500	000007	0.9/0	6.97921	6.81288	6.36745	8 47564	R 47759	0 64 400	400000	00000	0.97.902	6.9/901	6.64346		
2		+	0.00	4,2007.3	4.38726	4.38726	4.66313	4 23771	2 00000	200000	3.30036	20000	4.26573	4.22301	4.22362	3 85384		
-	 	+		0.35054	0.29192	0.29192	0 15884	201734	00000	3.02039	3.02039	3.06618	0.35054	-0.00002	00000	-2.39464		
<u>-</u>		Facet	4	7.17887	7.13030	7.13030	7 00005	10000	100000	6.61699	_	- 1	7.17887	7.12389	7.12389	6.77390	-	
-	,	-		4.03445	4.16642	4 19794	4 57100	4.07	4.1/939	3.80174	3.78090	3.64875	4.03445	4.00001	4.00000	3.66987		
-	-			0.36293	0.30320	0.30685	L	1	-2.72069	-2.89597	-2.79811	-2.83803	0.36293	0.00004	0.0000	-2 14504		-
	I	Facet	3	7.25212	7 20014	1 20000	1.60000	7.04932	6.61109	6.69286	6.71818	6.75093	7.25212	7.19246	7 19245	A 97955	0.0100	_
	9			381036	000000	3.30200	3,933/4	4.26827	3.83654	3.51184	3.51128	<u>l_</u>	3.81936	3 78342	3.78335	0.1000	0.41071	_
	_			0.05437	00.00	050570	0.29830	0.12287	2.84072	2,95787	2 95493	2 99436	0.35437	99000	00000	0.0000	231840	_
	E	Facet	4	2000	2010	27018	7.27046	7.13404	3,69289			2 70682	7 21635	00030	00000	750027	6.92439	_
	-			-	3.00327	3.72290	3.76848	4 09695	06869	-		24407	3,60000	00000	3.57.343	357301	323472	
			1	1		0.30677 3	0.45214 3	L	i		ļ	1	20000	-	1	00000	11473	
	-		-acel		.38483 0	7.33669 0	7.35085 0			1	0.02333	1	1	_		.32325 0	.01771	
	-				Point 1 7.	Point 2 7.	Point 3			1				-		_	-	
		I			a.	۵	٩	٥	- 1	٠١,	-	۱-	a.	ı.	Start of scan line	Addle of rotation	End of scan line	-

F14. 15C3

	326/33	5
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_	,					3.23954	3 28909	00000	3.28033	3.44252	6.68618	6 60031	0.03631	6.68785	6.68904	A 000 C	5.20304	3.45169	3.90711	007160	0.27 103		
_	-					-3.02504	2 07489	2000	-3.0/385	-3.22999	-4 94977	00400	-4.83430	-4.83220	-4 79243	70100	-3.02504	-3.12422	-3.35150	00001	-4.5/9ZU		
_		ന		Facet	12	3 24420	2 16701	0.10121	3.16395	2.92561	4 61710	21.0.4	5.13524	5.13464	E 21149	41.00	3.24420	3.41287	3 71220	211	5.05851		
•	5					3 24153	20000	3.20303	3.28365	3 37382	20707	0.40/05	6.49349	6 40349	0.000	0.43000	3.24153	3.42658	00000	4.00000	6.12962		
	<u>.</u>					200000	-2.32220	-2.96298	-2.96298	3 05022	3.0004	-4./024/	-4.63666	A 63666	4,00000	-4.60417	-2.92223	-3 00957	00000	-3.30000	-4.41413		
	ш	c	7	Facet	CF	0,000	3.09010	3.63983	3 63983	0.000	3.01403	5.13129	5 43660	7 40660	2,43000	5.58735	3 69818	3 84166	0.04100	4.2000	5 37598	200100	
	۵					0.00	3.18258	3.23834	2 21628	0.21020	3.40300	6.41511	A 10064	0.46304	6.39515	6.39317	2 1895B			4.08689	5 00800	3,33003	
	ت	,					-2.79379	-2.84817	00000	-2.00900	-3.01427	-4.63324	4 50700	-4.02/03	-4.50585	-4.46565		-2.19019	-2.9116/	-3.25182	070307	-4.20040	
	a	3	_	10000	שבשר	80	4.09124	4 01214	1.210.0	3.98/93	3.75453	5 22942	0.00	5.7332	5.72839	5 89808	20000	4.09124	4.26503	4 65630	2000	5.66800	
		A					Point 1	Doint 9	ZILIOL	Point 3	Point 4	Point 5		Point 6	Point 7	Doint 8	0 2 0	Point 9	Start of scan line	Middle of retation	WINDING OF TOTALION	End of scan line	
			75	c/	9/	77 G1	78	2 1	79	80	įά	5 8	82	83	84	5 8	SS SS	98	87		88	68	50

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	Γ		904	6.68785	231	618	252	633	606	954	904	163	711	169	T
7			6.68904	6.68	6.69231	6.68618	3.44252	3.28633	3.28909	3.23954	6.68904	6.27163	3.9071	3.45169	
_			4.79243	4.83220	4.83496	4.94977	3.22999	3.07385	3.07489	3.02504	4.79243	4.57920	3.35150	3.12422	
I	Facet	1	5.31142	5.13464	5.13524	4.61719	2.92561	3.16395	3.16721	3.24420	5.31142	5.05851	3.71220	3.41287	
ŋ			6.49668	6.49349	6.49349	6.48702	3.37382	3.28365	3.28365	3.24153	6.49668	6.12962	4.00000	3.42658	
ட			4.60417	4.63666	4.63666	4.70247	3.05022	2.96298	2.96298	2.92223	4.60417	4.41413	3.30000	3.00957	
ш	Facet	6	5.58735	5.43660	5.43660	5.13129	3.51489	3.63983	3.63983	3.69818	5.58735	5.37598	4.20000	3.84166	+
۵			6.39317	6.39515	6.42964	6.41511	3.40306	3.21628	3.23834	3.18258	6.39317	5.99609	4.08689	3.42532	
C			4.46565	4.50585	4.52709	4.63324	3.01427	2.83938	2.84817	2.79379	4.46565	4.26040	3.25182	2.91167	
8	Facet	7	5.89808	5.72839	5.73352	5.22942	3.75453	3.98793	4.01214	4.09124	5.89808	5.66800	4.65630	4.26503	
A			Point 1	Point 2	Point 3	Point 4	Point 5	Point 6	Point 7	Point 8	Point 9	Start of scan line	Middle of rotation	End of scan line	
,		G2													
\neg	91	92	93	94	95	96	97	86	66	8	흔	2	5	104	2

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				-	-	٩	-	-	-		×		Σ.	z	>	_	,	-	ì
A C D E			ע			9	-		-					1	-	-	Caret		
1000		10000	Coopt	2000			L	Facel	_		Facet	_		Lace	-		1000		-
- BCGE		, aron	, aron	, and			+	•			4			40	_	_	9		
7	7	22	2				†	2000	000000	ANACAA	7 17887	0.35054	4 28573	7.03508	0.35981	4.74102	6.87159	0.34512	5.26544
7.31635 0.35437	7,38483 0,36621 3,60327 7,31635 0,35437	3.60327 7.31635 0.35437	7.31635 0.35437	0.35437		3.8	3.81936	717071	0.30233	2	1001	10000	90000	0 07004	910000	A RACKO	6 81701	0.28708	5.40695
7 200 0 20548 3 72200 7 27018 0.29548	7 200 0 20548 3 72200 7 27018 0.29548	0.2057 3.72200 7.27018 0.29548	3 72200 7 27018 0.29548	0.29548		90	9289	7,20014	030350	4.16642	J. 13030	0.23192	4.30/20	0.0100			,02,00	00000	A A Dept
00000	00000	000000	000000	00000		ò	74.00	7 20880	0.39685	4 19794	7.13030	0.29192	4.38726	6.97921	0.30354	4.86/84	6.81/01	0.202.00	0.400
7.35085 0.45214 3.76848 7.27046 0.29030	7.35085 0.45214 3.76848 7.27046 0.29030	0.45214 3.76848 7.27046 0.29030	3.76848 7.27046 0.29030	0.29630		2	2	2000	200000	100763	10000	0.15884	4 66313	6.81288	0.12498	5.31804	6.72143	0.18544	5.65479
7,19969 0,19089 4,09695 7,13404 0,12287	7,19969 0,19089 4,09695 7,13404 0,12287	0.19089 4.09695 7.13404 0.12287	4.09695 7.13404 0.12287	0.12287		4.2	4.26827	7.04932	5.10	4.07132	20000	10000	4 000 4	G 2674E	O 800.40	4 92441	6 22148	-3 06048	5.23666
8,76168 -2,71194 3,69330 6,69289 -2,84072	8,76168 -2,71194 3,69330 6,69289 -2,84072	-2,71194 3.69330 6.69289 -2.84072	3.69330 6.69289 -2.84072	-2.84072		38	85	6.61109	-2.72069	4.17939	6,30131	PC/26.2-	4.537	ST 100.0	0000	A 40106	R 28421	3 12900	4.98858
R 82225 -2 01744 3 36219 6.76969 -2 95787	R 82225 -2 01744 3 36219 6.76969 -2 95787	-2 01744 3 36219 6.76969 -2 95787	3.36219 6.76969 -2.95787	-2 95787		351	\$	6.69286	-2.89597	3.80174	6.61699	SCOOK	3,30032	0.4/004	20,000	20101	10000	00000	A ORBEG
COUNTY OF THE PART	COUNTY OF THE PART	00000	000000	00000	ľ	,	001	R 71918	.2 70811	3.78090	6.61699	3.02659	3.96692	6.47758	-2,91719	4.49112	0.09421	-3. IZSUK	4.30000
6.86196 -2.76529 3.33220 6.77043 -2.95495	6.86196 -2.76529 3.33220 6.77043 -2.95495	-2.76529 3.33220 6.77043 -2.30480	3.33220 0.77043 -2.30483	20.400	T		2 2	0000	00000	3 CABTE	6.84813	918818	3 84679	6.51493	-2.95743	4.34377	6.32024	3.16838	4.84610
Point 8 6.89054 -2.80469 3.21407 6.79682 -2.99436 3.400	6.89054 -2.80489 3.21407 6.79682 -2.99436	-2.80469 3.21407 6.79682 -2.99436	3.21407 6.79682 -2.99436	-2.99436		€.	3	2007	2,0000	4.00446	747007	D SEOKA	4 26573	7.03508	0.35981	4.74102	6.87159	0.34512	5.26544
7.38483 0.36621 3.60327 7.31635 0.35437	7.38483 0.36621 3.60327 7.31635 0.35437	0.36621 3.60327 7.31635 0.35437	3.60327 7.31635 0.35437	0.35437		3.81	8	712027	0.30293	2004	1,17001	50000	4 99304	00000	700007	A 69690	6 82144	900000	5.21121
7.32381 0.00361 3.57345 7.25890 0.00056	7.32381 0.00361 3.57345 7.25890 0.00056	0.00361 3.57345 7.25890 0.00056	3.57345 7.25890 0.00056	0.00056		3.783	ž	7.19246	0.00004	4 00003	1.12309	-C.VVUVE	10077	0.07	00000	02000	00000	00000	6 21120
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-2,11473 3,23472 6,92439 -2,31840	7.01771 -2.11473 3.23472 6.92439 -2.31840	-2,11473 3,23472 6,92439 -2,31840	3.23472 6.92439 -2.31840	-2.3184U		r	410/1	0.07000	2.12	0.00007	2								

F14, 1503

B -

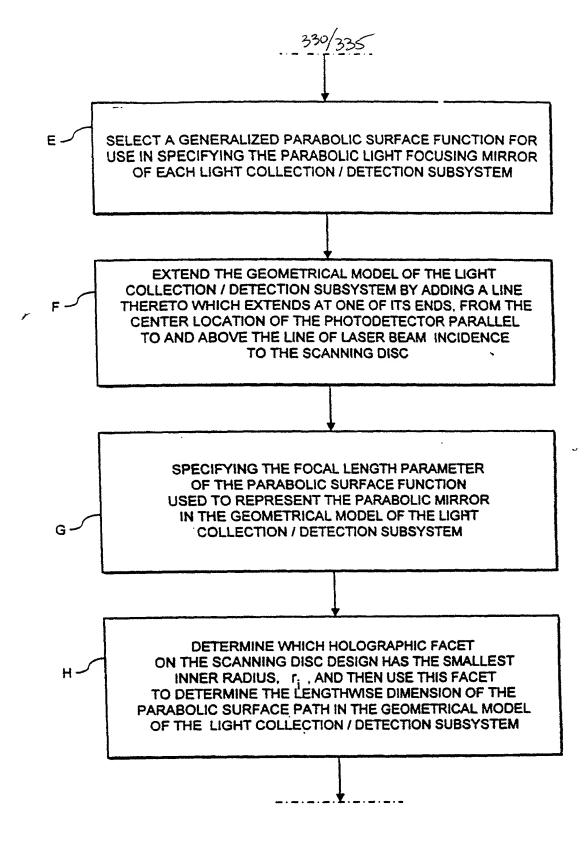
CREATE 3-D GEOMETRICAL MODEL OF HOLOGRAPHIC LASER SCANNER BASED ON PARAMETERS OBTAINED FROM PRIOR STAGES OF SCANNER DESIGN METHOD, EXCLUDING PARABOLIC LIGHT COLLECTION MIRRORS AND PHOTODETECTORS

PERFORM BRAGG SENSITIVITY ANALYSIS ON EACH
HOLOGRAPHIC FACET USING THE HSD WORKSTATION TO
DETERMINE THE RANGE OF INCIDENCE ANGLES OFF BRAGG,
AT WHICH LIGHT RAYS REFLECTED OFF THE PARABOLIC MIRROR
WILL BE TRANSMITTED THROUGH THE FACETS WITH
MINIMUM DIFFRACTION (I.E. MAXIMUM TRANSMISSION)
TOWARDS THE PHOTODETECTOR DURING LIGHT COLLECTION
OPERATIONS

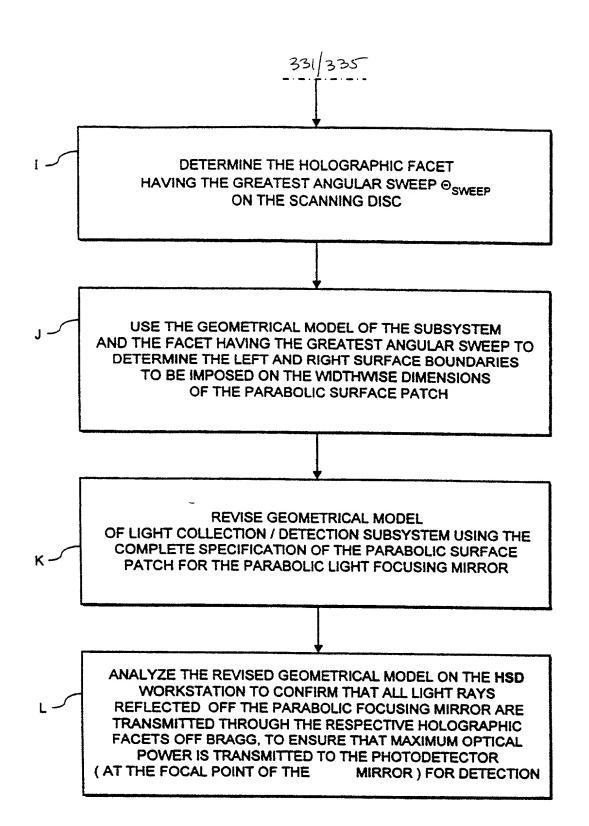
USE THE HSD WORKSTATION TO TRACE ALL INCOMING LIGHT RAYS REFLECTED OFF A BAR CODE SYMBOL ANYWHERE IN THE SPECIFIED SCANNING VOLUME ONTO THE FACETS OF THE PREDESIGNED SCANNING DISC, AND BASED ON THIS ANALYSIS, IDENTIFY A POINT(S) ABOVE THE SCANNING DISC AND BELOW TOP EDGE OF ASSOCIATED BEAM FOLDING MIRROR, WHICH IS FREE OF INCOMING LIGHT RAYS

LOCATE THE POSITION (I.E. CENTER AND OPTICAL AXIS ORIENTATION) OF THE PHOTODETECTORS USING THE "RAY FREE POINT" INFORMATION ACQUIRED DURING BLOCK C ABOVE

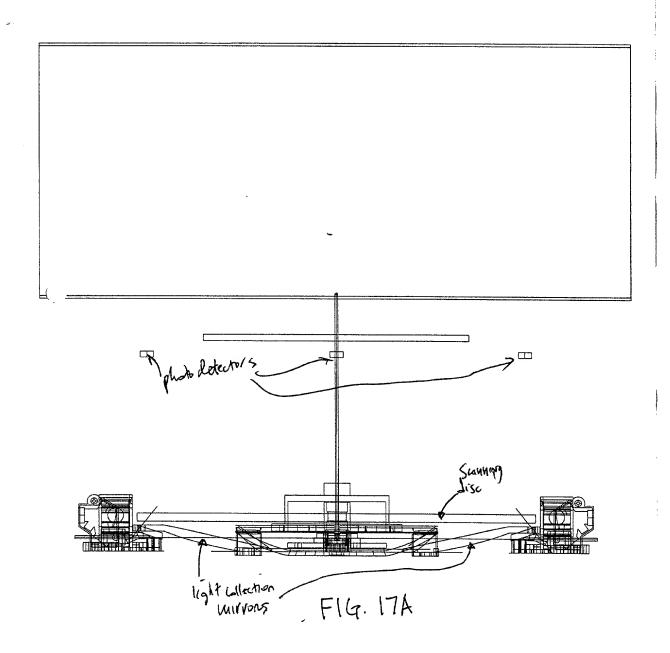
FIG. 16A



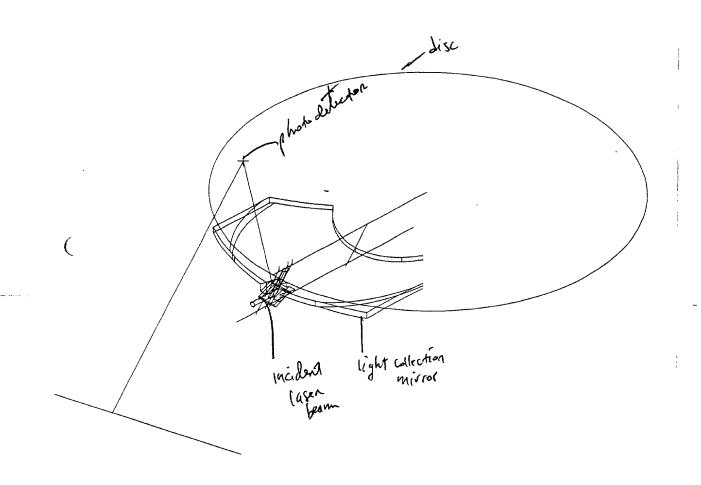
F1G. 16B



F1G. 16C

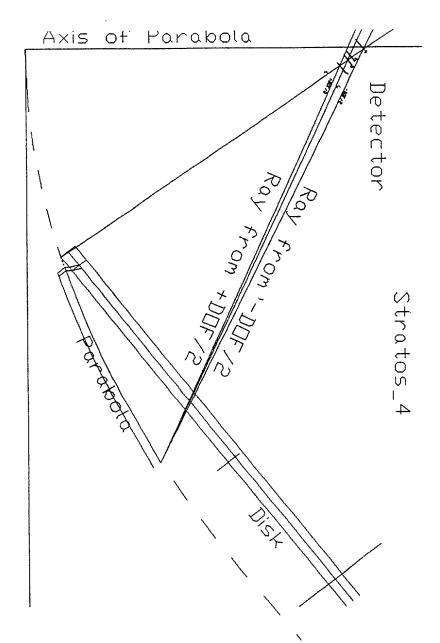


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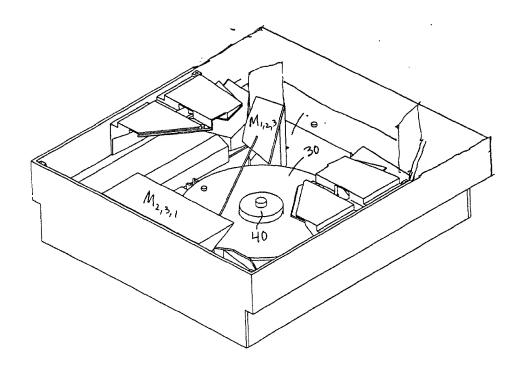
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F1G. 17C

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